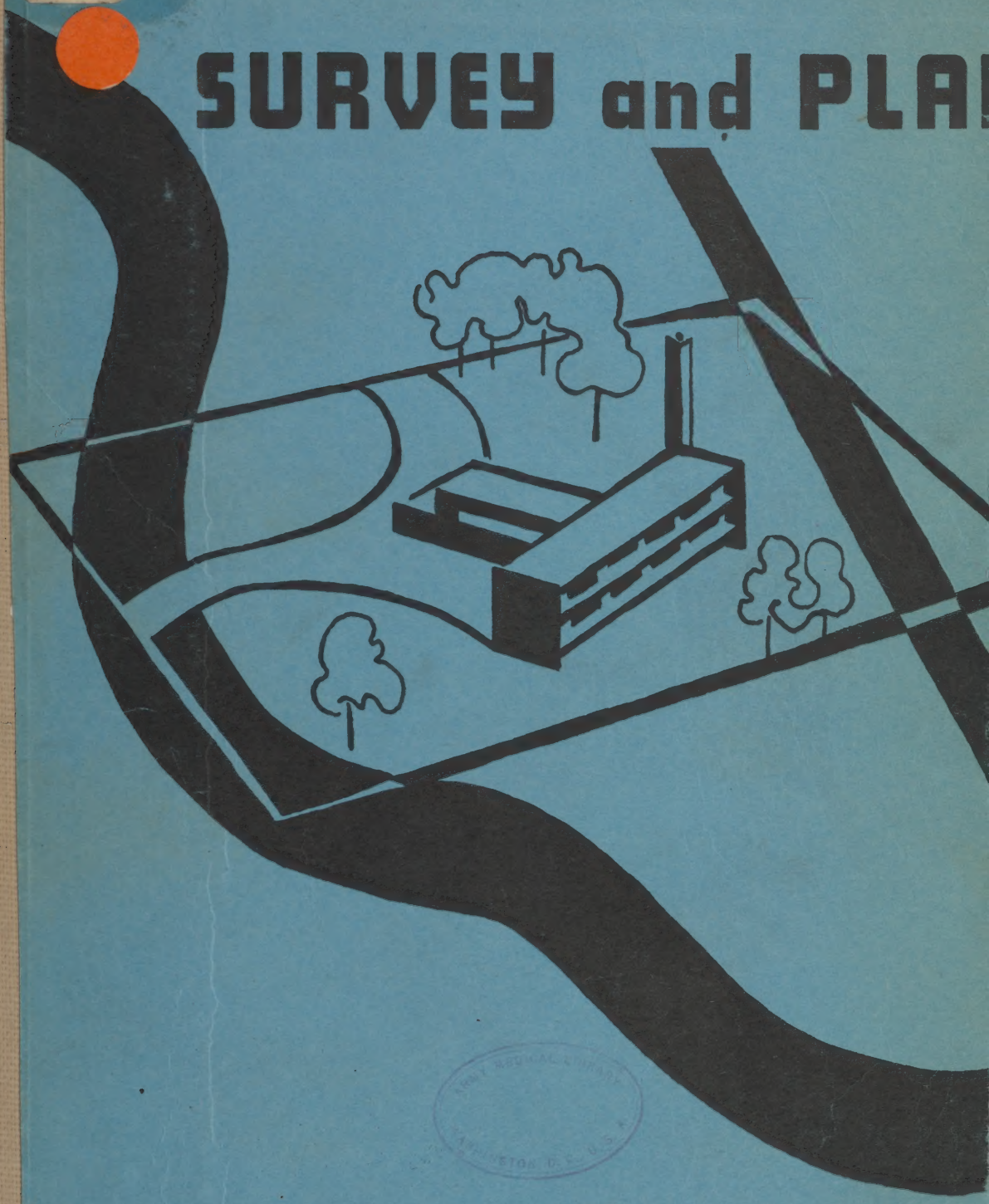
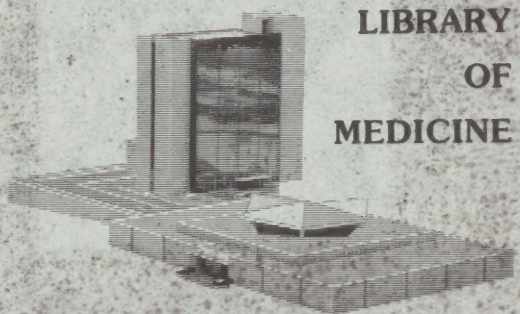
ILLINOIS HOSPITA

SURVEY and PLA



STATE OF ILLINOIS ★ DEPARTMENT OF PUBLIC HE

U.S. NATIONAL LIBRARY OF MEDICINE



The Illinois Hospital Survey and Plan

STATE OF ILLINOIS

DWIGHT H. GREEN, *Governor*

ILLINOIS DEPARTMENT OF PUBLIC HEALTH

ROLAND R. CROSS, M.D., *Director*

July 1, 1947

(44872)
14

THE HOSPITAL SURVEY STAFF
of
THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH

Henrietta Herbolsheimer, M.D. ..... Director of Study
George Weber ..... Administrative Assistant
Isabelle Crawford ..... Statistician

ADVISORY HOSPITAL COUNCIL*
TO THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH

Roland R. Cross, M.D., Springfield,
Chairman†
Director, Illinois Department of Public Health

Arthur Bachmeyer, M.D., Chicago
Director, University of Chicago Clinics

Reverend John W. Barrett, Chicago
Director, Catholic Hospitals Archdiocese of Chicago

Robert S. Berghoff, M.D., Chicago
Past President, Illinois State Medical Society

Fannie Brooks, R.N., Urbana
Health Education Specialist, University of Illinois Extension, Department of Agriculture

Marguerite Brooks, R.N., Moline
Superintendent, Moline Public Hospital

Everett Coleman, M.D., Canton
Past President, Illinois State Medical Society

Carl Erikson, Chicago
Schmidt, Garden and Erikson, Architects-Engineers

Luther German, Springfield
Legislative Representative, District No. 12, United Mine Workers of America

Mark Greer, M.D., Vandalia
Superintendent, Greer Brothers Hospital

Raymond Hilliard, Chicago†
Director, Illinois Public Aid Commission

James H. Keith, D.D.S., Evanston

Victor S. Lindberg, Springfield
President, Illinois Hospital Association

Mrs. Laura Lunde, Chicago
Secretary, Illinois Women's Conference on Legislation

Foster McMillan, M.D., Chicago

Irving Neece, M.D., Decatur
President, Illinois State Medical Society

General Cassius Poust, Springfield†
Director, Illinois Department of Public Welfare

E. E. Salisbury, Chicago
Executive Director, Chicago Hospital Council

*Appointed by Governor Dwight H. Green on August 21, 1947, in accordance with a recent amendment of the Civil Administrative Code.
†Ex-officio members.

An interim committee appointed by the Governor to assist the State Department of Public Health in the survey of hospital facilities in Illinois included the following persons: Robert S. Berghoff, M.D., Chicago, **Chairman**; Henrietta Herbolsheimer, M.D.*, Springfield, **Executive Secretary**; Rev. John Barrett, Chicago; Paul F. Bourscheidt, Peoria; W. J. Bryan, M.D., Rockford; Mrs. Kathryn Van Aken Burns, Urbana; Mrs. Everett Butler, Alton; Arthur Canty, Chicago; Mrs. Frank C. Christenson, Cicero; Roy Clippinger, Carmi; Lt. Governor Hugh Cross, Springfield; Roger W. DeBusk, M.D., Evanston; James L. Donnelly, Chicago; Gerry B. Dudley, M.D., Charleston; E. A. Eckert, Mascoutah; Carl Erikson, Chicago; Frederick H. Falls, M.D., Chicago; Mrs. Walter T. Fisher, Chicago; Msgr. J. L. Gatton, Springfield; Hon. Hugh Green, Jacksonville; Raymond M. Hilliard, Chicago; Stuart K. Hummel, Joliet; James H. Hutton, M.D., Chicago; Victor Johnson, M.D., Chicago; Chester Lay, Carbondale; S. Levin, Chicago; Lawrence J. Linck, Hinsdale; Charles A. Lindquist, Elgin; Prof. D. E. Lindstrom, Urbana; Mrs. Laura Lunde, Chicago; O. W. Lyerla, Herrin; R. W. McNealy, M.D., Chicago; Robert W. McNulty, D.D.S., Chicago; Malcolm T. MacEachern, M.D., Chicago; Paul E. Mathias, Chicago; Oscar Nelson, Springfield; Edna Nicholson, Chicago; Vernon L. Nickell, Springfield; Gen. Cassius M. Poust, Springfield; Edward L. Ryerson, Chicago; A. L. Sargent, Springfield; Howard Shaughnessy, Ph.D., Chicago; Herman M. Smith, M.D., Chicago; R. G. Soderstrom, Springfield; Hilda Stein, Carbondale; Robert Stephens, Springfield; Walter Stevenson, M.D., Quincy; Fred Wanless, Springfield; Benjamin Wham, Chicago; John A. Wolfer, M.D., Chicago; and Ellen Van Horn, Chicago.

* Ex-officio

July 22 1947

Roland R Cross MD Director
Department of Public Health
Springfield, Illinois

Dear Doctor Cross

It is a signal honor to submit to you the Illinois Plan of hospital construction for the approval of the Surgeon General of the United States Public Health Service.

The special interest which you have shown in this program and your continued encouragement and reassurances have been appreciated by all who have made contributions in bringing this work to its present form. From the beginning of this study it was apparent that the hospital program promised many and important benefits to the people of our State and every effort has been in keeping with this recognition.

Despite the tremendous work of the study, there are some notable shortcomings in this first Plan. These imperfections emphasize the fact that this project needs continuous study to modify the Plan in keeping with changes which affect the location and use of hospitals. The most notable inadequacies of the current Plan are the use of 1940 census and socio-economic data and 1945 hospital information applied to present needs and projections in addition to the federally required use of the unfavorable 1945 estimated civilian population of the State. The experience gained in this first study will be a helpful guide in correcting deficiencies as the Plan changes from year to year.

The priority of projects has been most carefully considered by the Study Group. It will be reassuring to you to know that O. K. Sagen PhD has endorsed the method used in calculating the priorities as statistically sound and in keeping with the intent of the Federal Statute.

Throughout the Illinois Survey and Plan I believe you will recognize concepts and principles which have their origin in other Divisions of this Department, the Illinois Hospital Association, and the Illinois State Medical Society. The Study could not have been completed without the aid of these groups. Their demonstrated concern leavened by widespread and fundamental community enthusiasm for improved hospital facilities promises that this is no idle document but a flexible blueprint for a course of action.

Sincerely yours

/s/ Henrietta Herbolsheimer MD
Director of Study
Illinois Hospital Survey

hh/lh

FEDERAL SECURITY AGENCY

U. S. PUBLIC HEALTH SERVICE

Washington 14

(Bethesda Station)

August 8, 1947

Dear Dr. Cross:

The Illinois State Plan meets the requirements of Section 623 (a) of the Hospital Survey and Construction Act and is hereby approved.

Sincerely yours,

/s/ Thomas Parran

Surgeon General

Dr. Roland R. Cross

Director

State Department of Public Health

Respectfully forwarded:

/s/ F. V. Meriwether, Medical Director

Director, District No. 3

INTRODUCTION

The Illinois Hospital Survey and Plan stemmed from the resolution adopted by the Illinois Hospital Association, January 27, 1945:

"Whereas, postwar planning for the expansion of hospital facilities and the means of providing adequate hospital services to all the people of our State should be based on actual needs as revealed by careful study, therefore

"Be it resolved that the Illinois Hospital Association assembled go on record as favoring the making of a statewide study of Illinois along the lines recommended by the Commission on Hospital Care, and

"Be it further resolved, that such a study should be made under the auspices of a suitably constituted committee, commission or advisory group composed of representatives of all types of hospitals and other interested health and welfare agencies, and that this group develop a plan for postwar improvement and extension based on a comprehensive study of the needs to be met by both governmental and non-governmental institutions and agencies on State and local levels, and

"Be it further resolved that the Committee on Government Relations of the Illinois Hospital Association take suitable steps, to the approval of the trustees, to assist in the inauguration of the proposed study and to arrange for the part which this Association will take in the project."

In April 1945 the Council on Government Relations of the Illinois Hospital Association together with representatives of the Commission on Hospital Care and the Illinois Department of Public Health determined that the Department might reasonably undertake this project. Authorization to this effect followed in the Governor's letter:

OFFICE OF THE GOVERNOR
SPRINGFIELD

DWIGHT H. GREEN
Governor

April 23, 1945

Dr. Roland R. Cross
Director
Department of Public Health
Springfield, Illinois

Dear Doctor Cross:

In response to your letter under date of April 23, and in recognition of the public importance of the project, you are hereby authorized to proceed with the development and execution of plans for making a comprehensive survey of the hospital facilities and hospital needs of Illinois.

Very truly yours
/s/ Dwight H. Green
Governor

On July 23, 1945 Governor Green appointed the Advisory Council on Hospitals, the Executive Committee of which met on August 20, 1945. At this meeting Dr. Roland R. Cross made the following statement:

"I take it for granted that each of you knows very well that hospital facilities are not equally accessible to all people in Illinois. Each of you knows also, I am sure, that there is an enormous difference between the kinds and quality of services offered by different hospitals. You are well aware of the rapid advancements made during recent years in scientific knowledge which has increased tremendously the potential importance of hospitals as centers for the practice of both curative and preventive medicine.

"All of us know that throughout the civilized world there is a strong current of public opinion in favor of making the benefits of scientific knowledge

more generally available for both the cure and prevention of diseases. In the United States this current of public opinion has expressed itself in many different ways. Numerous bills have been introduced in Congress, for example. Among these is Senate Bill No. 191 which proposes to make large Federal appropriations for aiding states and local communities in the construction and improvement of hospital facilities.

"That bill was introduced at the request of the American Hospital Association. It has the endorsement and the active support, I believe, of the principal national organizations representing medicine, public health, education, labor, agriculture, welfare and other interests. The purpose of this pending legislation is to stimulate a construction program that will provide adequate hospital facilities throughout the United States.

"Benefits from this pending legislation would be available only to states which make surveys of existing hospital facilities and which develop comprehensive plans on the basis of information so collected. To qualify for the anticipated Federal benefits, a state must also have an advisory council to the official state agency selected to make the survey and develop the plan.

"Under prevailing conditions it was believed that a survey of hospital facilities in Illinois would be highly valuable regardless of whether or not the pending Federal Legislation becomes a law. When the matter was brought to the attention of Governor Green, he authorized the State Department of Public Health to proceed with a survey. He has now appointed an Advisory Council on Hospitals so that Illinois may participate in Federal benefits if they become available, as seem likely, and if the Advisory Council so decides.

"As I see it, the functions of the Advisory Council are fundamental to the entire project. The Department of Public Health is prepared to do the detailed work involved in the survey. It can assemble the information in reports suitable for study. It will need help and guidance in the interpretation of the reports and in projecting a construction program suitable in all respects for Illinois. It will need help and guidance in formulating policies with regard to granting aid of any kind to local communities. For this help and guidance the Department will look to the Advisory Council.

"The first problem to face is the obvious inequitable distribution of hospital facilities in Illinois. The second is that some institutions which pass for hospitals make no pretense at giving hospital care in the modern meaning of that term. Unhappily, the areas with an acute shortage of beds are the same in which are found the highest proportion of poorly equipped and poorly staffed hospitals. There are 28 counties which have no hospital facilities at all. There are 23 other counties which have institutions that appear to be hospitals in name only. Thus fully one-half of the counties in Illinois are known to be without local hospital facilities that may rightly be classed as such. Many of these counties are contiguous. Most of them are in the southern part of the State. The prevailing health conditions in these counties are reflected in higher death rates and higher sickness rates from controllable causes.

"The distribution of physicians is determined to a considerable extent by the distribution of hospitals. Every new graduate of a medical college has been taught to use the latest forms of equipment in the diagnosis and treatment of diseases. He has been taught to use and depend heavily on modern diagnostic laboratories. He has learned to depend on hospitals which are equipped and staffed to provide these services. He hesitates, therefore, to locate in a community where such facilities are not to be had. For this reason there are large segments of the population in Illinois, especially among rural people, that do not have modern hospital or medical services available.

"The quality of hospital service is, of course, of the highest importance. Many factors affect the quality of hos-

pital services and these factors vary from one community to another. Among the more important are density and character of population, the birth rate, trade practices, transportation, economic conditions, personnel and equipment of the hospital, size of hospital, management and financing of the hospital, and the community attitude toward the hospital. Much information of this kind is at present not known in relation to existing hospital facilities and the hospital needs in Illinois. Such information must be had, however, if future construction is so planned as to meet satisfactorily the immediate and more distant needs. All facts of this nature will be brought together by the survey and assembled for study so that practical advice may be given to any community as to the local hospital requirements.

"That the time is ripe for study and planning as to hospital facilities in Illinois is indicated by a wave of public interest in this matter. Three laws were passed at the recent session of the General Assembly liberalizing tax levies for public hospital purposes.

"Another law that was passed creates a commission to study the hospitalization and medical needs of the State. I have referred already to the pending Federal Legislation. Several Illinois communities have recently voted favorably on the proposition of a tax levy for building and operating local hospitals. Requests for help and guidance in planning for the construction of local hospitals have reached the State Department of Public Health with increasing frequency during the last few years.

"The new laws, as well as funds already collected in many places from voluntary sources, will encourage local communities to go forward with building hospitals. Prompted by the best of motives, those responsible for local projects of this kind will spend a lot of money and effort unwisely, as has been done in the past, unless they can have guidance and advice based upon factual data and sound thinking.

"Heretofore, especially in smaller communities, hospitals frequently have started merely to meet the requirements of a single doctor. Growth and expansion was determined by the peculiar needs of that particular practitioner, and perhaps of his associates, without much thought of the community requirements. Institutions of such background are often found in numerous communities located in the same area which has no well equipped hospital at all. All such hospitals aim at giving minimal service. None is equipped or staffed to give adequate care.

"On the other hand, military experience has taught a lot of soldiers and medical officers that a system of adequate hospital care can be provided anywhere and under any conditions where the desire and the will for such services is strong enough. The military system is to maintain front line, field and base hospital facilities. Emergency care of a first-aid nature is provided at the front line. Patients that need it are transferred back to the field hospital and on to the base hospital, respectively, according to the need of each patient concerned. Each hospital is equipped and staffed to fulfill its particular function.

"The principle of the military system is contemplated in the pending Federal legislation. Each of you has received a copy of the hearings of the Senate Committee on the bill. Whether or not such a system is practicable or desirable for Illinois is a question which I hope the Advisory Council will consider and decide. The idea warrants serious thought.

"Several questions arise in this connection. Is it a practical possibility to provide all essential medical and hospital care to every resident of Illinois in the immediate vicinity of his home? If not, why? Is it desirable that such should be the case? If a referral system is desirable, do we now have such a system? Are means now available for providing all patients with the kind of hospital facilities needed by each? Is the present

method of obtaining hospital care on a referral basis satisfactory? Can our present methods and practices as to hospital care be improved? If so, how? Are prevailing conditions, particularly in the southern and rural parts of the State, such as to often discourage both patient and doctor in seeking the kind of hospital care desired? If so, what is the remedy? Are the people or the medical profession satisfied with the existing hospital situation in Illinois? Is there now an unnecessary duplication and overlapping in various laboratory and medical examinations in the case of a patient transferred from one hospital to another? Is the present system good? Are the modern facilities of medicine reasonably well available to all people in the State? If not, should efforts be made to improve the situation in this respect?

"These are some of the perplexing questions that arise. The findings of the survey will bring together the facts. The study of these facts should make possible the preparation of a comprehensive, sound, practicable plan aimed at providing the best possible service to the greatest number of people.

"We are told that the civilized world is on the threshold of a new era, the beginning of the Atomic Age. Competent observers tell us that the results of research on the atom will have a profound influence on public health and the practice of medicine. We know that new procedures and new methods brought swiftly into practice by the war have speeded up the use of scientific knowledge in the cure of disease and the protection of health. I believe that we would be derelict in our duty if every reasonable effort is not made to take advantage of the war-time experiences and the war-time advances for the benefit of the civilian population in time of peace.

"The hospital survey is a step in that direction. It can be the foundation on which to build a service structure of profound social significance. I appreciate deeply your willingness to help the Department in this project which has so much potential importance on the lives and the welfare of the people of Illinois for many years to come."

The mechanics of the survey were explained to the group and approval was obtained.

The next meeting of the Executive Committee to the Advisory Council on Hospitals was called on March 18, 1946 wherein items of a highly technical nature were brought before the group. After considerable discussion a Technical Sub-Committee was appointed to work closely with the Study Group. The committee consisted of the following persons: Stuart K. Hummel, Chairman, Reverend John Barrett, Herman Smith, M.D., James Hutton, M.D., and Charles Lindquist.

The Technical Sub-Committee on the Hospital Survey met April 10, 1946, August 28, November 6, December 3 and December 12, 1946 and January 30, 1947. The counsel which this group gave on theses developed by the State Study Group is reflected in the report of the Survey and Plan.

The survey took into consideration almost 1200 institutions (1185) listed as hospitals or homes for chronics and convalescent. The schedules of information as prepared by the National Commission on Hospital Care were used throughout. Hospitals operated by the Federal government and State and other institutions not serving the general public, such as infirmaries, prisons, etc., were excluded from this inventory. On August 23 and 24, 1945 a letter from Governor Green was mailed to all these institutions acquainting them with the Survey, and on August 30, 1945, a letter from the Director of the Department of Public Health was sent to each institution urging its full cooperation. One hundred eight (108) institutions were deleted immediately because the post-office was unable to locate them. On September 1, 1945 schedules of information were sent to 1077 institutions. On September 6, 1945 a letter was sent

to each of the institutions from the President of the Illinois Hospital Association pointing out the value of the survey and urging full cooperation. On or before September 20 field assignments of the 1077 institutions were made to field workers from the Department of Public Health, the Illinois Hospital Association and the Illinois Conference of Catholic Hospitals. On September 30, 1946 the last of the outstanding schedules were obtained and copies were sent to the Commission on Hospital Care for inclusion in the national study.

FIELD WORK ON THE HOSPITAL SURVEY

The field work on the Hospital Survey was both extensive and time consuming because each schedule which was gathered was reviewed with the administrator of the institution for accuracy in arithmetic and completeness of reporting. The Illinois Department of Public Health was responsible for gathering 930 schedules, of which the Division of Maternal and Child Hygiene, the office in which the Hospital Survey Staff was located, was responsible for the collection of 500. The Division of Public Health Nursing collected 201 schedules from the nursing home group of institutions, and the Division of Vital Statistics, 229, including both hospitals and nursing homes. Members of the Illinois Hospital Association contributed to the field work in connection with the Survey by gathering 104 schedules, and the Illinois Conference of Catholic Hospitals, 43.

In the course of the field work 37 per cent of the original number of institutions was deleted from the study because those places did not qualify as hospitals or allied institutions but were classified as places providing domiciliary care. There were only five institutions in the State that refused to submit the desired information, which represents a gratifying 99.3 per cent cooperation. Data from 320 hospitals and 362 nursing homes comprise the final body of information which presents an all-inclusive picture of the institutions surveyed. An analysis of the significant items of these data is the subject of Section II, Chapter II.

CONTENTS

PAGE

Letter of Transmittal IV

Notice of Approval of Hospital Plan V

Introduction VI

THE RESOLUTION OF THE ILLINOIS HOSPITAL ASSOCIATION

STATEMENT OF DR. CROSS

SURVEY MECHANICS

SECTION I. CONCEPTS OF HOSPITAL PLANNING APPLICABLE TO ILLINOIS

CHAPTER I. HOSPITAL SERVICE

A. General Hospitals 1
B. Tuberculosis Hospitals 9
C. Neuro-Mental Hospitals 10
D. Chronic and Convalescent Facilities 13
E. Local Health Facilities 14
F. Coordination of Hospitals 15

CHAPTER II. DEMOGRAPHIC FACTORS PERTINENT TO HOSPITAL PLANNING

A. Population Factors and Trends 17
B. Vital Statistics 20
C. Economic Factors 23
D. Transportation and Communication Facilities 24

SECTION II. HEALTH SERVICE PERSONNEL AND FACILITIES IN ILLINOIS

CHAPTER I. PROFESSIONAL PERSONNEL 27

CHAPTER II. HOSPITALS 29

A. General and Allied Special 30
B. Tuberculosis 44
C. Neuro-Mental 48
D. Chronic and Convalescent 51
E. Public Health Facilities 53
F. Coordination of Hospitals 55

SECTION III. FEDERAL AND STATE LEGISLATION CONCERNING HOSPITAL CONSTRUCTION

CHAPTER I. THE FEDERAL HOSPITAL SURVEY AND CONSTRUCTION ACT 56

CHAPTER II. THE ILLINOIS HOSPITAL CONSTRUCTION ACT 57

CHAPTER III. METHODS OF OBTAINING A HOSPITAL IN A COMMUNITY 58

SECTION IV. THE ILLINOIS STATE PLAN

A. General Hospitals 61
B. Tuberculosis Hospitals 66
C. Neuro-Mental Hospitals 70
D. Chronic and Convalescent Facilities 73
E. Local Health Facilities 75
F. Coordination of Hospitals 81
G. Procedure for Developing Priority Rating of Areas for General Hospitals 81

APPENDICES

A. Copies of statutes and regulations pertinent to Section III 87
B. Tables supporting illustrations used throughout the text 147

LIST OF TABLES

Table Number	Title	Page
I.	Gradients of Hospital Services	3
II.	Theoretical Relation of Percentage Occupancy to Size of Hospital	9
III.	Types of Institutions and Bed Capacity	30
IV.	Beds Available For Certain Types of Patients In Hospitals of 25 Beds or More by Type of Institution. Illinois, 1945	30
V.	General Hospitals and Beds by Control. Illinois, 1945	31
VI.	General Hospitals and Beds by Size of Institution. Illinois, 1945	31
VII.	Bed Complement in General Hospitals by Control. Illinois, 1945	31
VIII.	Normal Bed Capacity Allotted to Specific Services in General Hospitals of 25 Beds or More by Control. Illinois, 1945	32
IX.	Beds Allotted to Specific Services in General Hospitals (25 Beds or More) By Size. Illinois, 1945	32
X.	Selected Statistics for General Hospitals by Control (One Year's Experience). 1945	33
XI.	Selected Characteristics for General Hospitals by Size. Illinois, 1945	33
XII.	Deaths in General Hospitals by Control. Illinois, 1945	34
XIII.	Death Rate in Hospitals by Control, Type and Size. Illinois, 1945	34
XIV.	Discharges from General Hospitals of 25 Beds or More by Type of Service and Control. Illinois, 1945	34
XV.	Days of Care in General Hospitals of 25 Beds or More by Type of Service and Control. Illinois, 1945	35
XVI.	Full-Time Personnel in General Hospitals of 25 Beds or More by Size and Departments. Illinois, 1945	35
XVII.	Classification of Personnel by Type of Hospital. Illinois, 1945	36
XVIII.	Income and Expenses Reported by General Hospitals by Control. Illinois, 1945	36
XIX.	Cost Per Patient Day in Hospitals by Type. Illinois, 1945	37
XX.	Income and Expenses Reported by General Hospitals by Size of Hospital. Illinois, 1945	37
XXI.	Percentage Distribution of Operating Cost by Size of Hospital. Illinois, 1945	37
XXII.	Percentage of Hospitals with Selected Maternity Services. Illinois, 1945	38
XXIII.	Allied Special Hospitals in Illinois, 1945	39
XXIV.	Selected Statistics in Allied Special Hospitals by Control. Illinois, 1945	39
XXV.	Tuberculosis Hospitals and Beds by Control. Illinois, 1945	44
XXVI.	Selected Statistics for Tuberculosis Hospitals by Control. Illinois, 1945	45
XXVII.	Tuberculosis Facilities in Illinois, 1945. By Type of Control and Bed Capacity	46
XXVIII.	Deaths from Tuberculosis in Illinois, 1940-1944. (By Place of Residence)	47
XXIX.	Tuberculosis Deaths Occurring in Illinois, 1945. (By Type of Institution)	48
XXX.	Nervous and Mental Institutions and Beds by Control. Illinois, 1945	49
XXXI.	Selected Statistics for Nervous and Mental Institutions by Control. Illinois, 1945	49

LIST OF TABLES—Concluded

Table Number	Title	Page
XXXII.	Nervous and Mental Facilities in Illinois, 1945	50
XXXIII.	Patients Present in Mental Hospitals, June 30, 1917-1946	50
XXXIV.	Chronic and Convalescent Institutions and Beds by Control. Illinois, 1945	52
XXXV.	Selected Statistics for Chronic and Convalescent by Control. Illinois, 1945	52
XXXVI.	Local Health Department Personnel by Type of Employee	54
XXXVII.	Full-Time Health Departments in Illinois. June, 1947	54
XXXVIII.	Needed Tuberculosis Beds Based on Tuberculosis Mortality (Excluding Deaths in State Mental and Penal Institutions)	69
XXXIX.	Needed Tuberculosis Beds Based on Tuberculosis Mortality Including Deaths in State Mental and Penal Institutions	69
XL.	Overcrowding in State Hospitals for Mental Patients. Illinois, 1946	72
XLI.	Needed Beds Calculated on the Basis of Patients in State Hospitals on June 30, 1946	72
XLII.	Hospital Bed Construction Requested by Illinois Welfare Department for the Mental Hospitals for 65th Biennium (1947-1949) (Omitting institutions for feebleminded, Lincoln and Dixon, and institution for criminally insane, Illinois Security Hospital)	73
XLIII.	Counties in Each Unit of Local Health Jurisdiction	77
XLIV.	Local Health Units for Illinois	78
XLV.	Financial Support for County & Multiple County Health Departments	79
XLVI.	Area Priorities with Estimated Cost of Construction	83
XLVII.	Calculations for Priority Ratings	85

LIST OF FIGURES

Number	Title	Page
I.	Deaths in General Hospitals per 1,000 Population, By Place of Occurrence, Illinois, 1945	7
II.	Population by Age, Illinois 1870-1940	17
III.	Patients Present in Mental Hospitals, Illinois, June 30, 1917-1946	51

LIST OF MAPS

Number	Title	Page
I.	Population by Residence, Illinois 1940	18
II.	Metropolitan Character of County	18
III.	People Under 15 Years of Age, Illinois 1940	19
IV.	People Over 65 Years of Age, Illinois 1940	19
V.	Birth Rate per 1,000 Women Age 15-44, Illinois 1940	20
VI.	Infant Mortality Rates, Illinois 1942-1944, By Place of Residence	20
VII.	Births in Hospitals, Illinois 1942	21
VIII.	Per Cent Births in Hospitals, Illinois 1945	21
IX.	Deaths per 1,000 People, Illinois 1942-1944, By Place of Residence	22
X.	Deaths in Hospitals by Residence, Illinois 1945	22
XI.	Per Capita Assessed Valuation, Illinois 1945	23
XII.	Effective Buying Income per Capita, Illinois 1944	23
XIII.	Average Standard of Living, Illinois 1940	24
XIV.	Percentage Pupils* Graduating from High School 1939 (*Percentage who were enrolled in 1st grade 12 years ago)	24
XV.	Per Cent Farms with Automobiles, Illinois 1940	25
XVI.	Per Cent Farms on Dirt Roads, Illinois 1940	25
XVII.	Per Cent Farms with Telephones, Illinois 1940	26
XVIII.	Population per Active Physician, Illinois 1943	27
XIX.	Total Population per Dentist, Illinois 1942	28
XX.	Counties Having only Small or No Hospitals, Illinois 1945	40
XXI.	General Hospitals in Illinois—Type of Ownership	40
XXII.	General Hospitals in Illinois—Size of Hospital	41
XXIII.	General Hospitals in Illinois—Size	41
XXIV.	General Hospitals in Illinois—A.C.S. Accrediting	42
XXV.	General Hospitals in Illinois by Type* (*Excluding Cook County)	42
XXVI.	General Hospitals in Cook County by Type	43
XXVII.	Nursing Schools in Illinois	44
XXVIII.	Tuberculosis Sanatoria in Illinois 1945	45
XXIX.	Provision by Counties for Tuberculosis Control in Illinois 1946	46
XXX.	Tuberculosis Facilities in Illinois	48
XXXI.	Nervous and Mental Facilities in Illinois 1945	49
XXXII.	Neuro-Mental Facilities in Illinois	50
XXXIII.	Nursing Homes in Illinois	52
XXXIV.	Progress of County Home Program for Care of the Chronically Ill in Illinois, May 1947	53
XXXV.	County and State District Health Departments in Illinois	53
XXXVI.	General Hospital Service Areas in Illinois	64
XXXVII.	Regional Integration of Hospitals* (General Hospitals*)	65
XXXVIII.	Five Areas of Illinois and Tuberculosis Needs	68
XXXIX.	Beds Needed for Care of Neuro-Psychiatric Patients (5 Beds per 1,000 population)	72
XL.	The Developing Plan for County Health Departments in Illinois	76
XLI.	General Hospital Service Areas in Illinois (Percent of Need Met)	83

SECTION I. CONCEPTS OF HOSPITAL PLANNING APPLICABLE TO ILLINOIS

CHAPTER I. HOSPITAL SERVICE

Any sound analysis of existing health facilities and any attempt to improve upon them require a clear definition of the objectives together with the development of a workable method for reaching those goals. That thorough study of all pertinent factors has not been prominent in the evolution of our present arrangement of hospital and allied health facilities is evident in the variations in quality and distribution of services currently available.

In Illinois, as elsewhere, hospitals have grown up more in relation to community wealth and individual benefaction than in proportion to population need. Some of our general hospitals are of significant size and provide service adequate for average community illness; others are small, woefully lacking in essential equipment, or are sharply circumscribed in the care that they are equipped to provide. The present arrangement includes in addition to general hospitals, large specialized institutions totaling thousands of beds for persons afflicted with conditions necessitating extended or life-long care, and a heterogenous group of places that grade in accordance with care provided from semi-hospitals to convalescent homes, infirmaries, homes for incurables, nursing homes, rest homes, sanatoria and commercial homes to resident hotels.

The essential purpose of all hospitals is to make available through adequate personnel and equipment safe care, treatment and education in accordance with advancing medical science and inconstant community needs. To be available this care must be within the purchasing power of the people. The consensus is that a single accessible unit with effective organization and comprehensive services promises the best means for attaining this purpose, but the present circumstances with regard to existing significant institutions in both the general and specialized categories, the weight of the numbers of persons affected with serious and costly diseases, and the availability of appropriately qualified personnel preclude universal development of an all-inclusive type of facility.

It follows that hospital service for some time to come must continue to be regarded in terms of general hospitals, tuberculosis sanatoria, neuro-mental institutions and facilities for the care of the chronically ill. Recent thinking on preventive medicine and public health has resulted in the trend to encompass these basic community health services in the over-all plan for adequate health facilities. The extent to which we in Illinois may approach the optimum unity of all services either in one facility in each community or on the basis of voluntary liaison between diverse facilities is discussed below.

In this discussion of concepts of the various categories of institutions, numerous references are made to the "Federal Regulations" pursuant to Public Law 725, The Hospital Survey and Construction Act. These references are made because the Federal regulations (1) portray the concepts of the staff of experts on hospitals in the United States Public Health Service and on the Federal Hospital Advisory Council and, (2) govern the program for Federal grants-in-aid for hospital construction in the States. These regulations, in full are included in Appendix A.

A. THE GENERAL HOSPITAL

A general Hospital is defined as any hospital for in-patient and out-patient medical or surgical care of acute illness

or injury and for obstetrics, of which not more than 50 per cent of the total in-patient days during the year are customarily assignable to the following categories of cases: Chronic, convalescent and rest, drug and alcoholic, epileptic, mentally deficient, mental, nervous and mental, and tuberculosis.

The time honored general hospital function of in-patient care, which includes the use of bed, food service, and the services of trained nursing personnel, was once the entire function of a hospital. This elementary function has, under the demands of the medical practitioner and the expectations of the public, grown to include many special services for diagnosis and therapy. These special services require costly equipment and high salaried personnel and must be in fairly constant use in order to be both dependable and economical.

In the light of current thinking reflected in the abundant hospital and medical literature, the recommendations for general hospitals in Illinois are as follows:

1. Service Should be Complete. There is substantial agreement that general hospitals should be equipped to care for all kinds of illness within the community, either directly within their own four walls, or indirectly through liaison relationship with outlying larger institutions. In order to furnish this type of complete coverage a hospital must serve a group of people large enough to support the cost of construction and operation and to provide clinical material in sufficient volume to stimulate interest in all categories of diagnosis and therapy. To the time honored services offered by the small general hospital—obstetrics, surgery and internal medicine for adults—should be added facilities for care of communicable diseases, venereal diseases, pediatric and geriatric conditions and certain types of neuromental and tuberculosis cases requiring short-term hospitalization. Laboratory, x-ray and physiotherapy services should be available under competent direction for both in-patients and out-patients. The range of facilities for rehabilitation and recreational therapy needed in the general hospital acute unit deserves careful study since early ambulation and improved methods of therapy have resulted in a relatively short average stay of patients (10-12 days) in existing general hospitals.

Hospitals which have already developed commendable health education programs for maternity patients should expand such service in this and other fields as well.

Nursing and related service should be adequate for all patient needs and should be of such nature that patients do not find it necessary to employ special duty nurses in order to obtain routine care.

Full consideration of the complexities and the cost of diagnostic and therapeutic care in hospitals indicates that all advantages to the public are with the larger hospital. In order to obtain the most complete hospital services possible, within a reasonable distance from any place in the State, the following system of gradients among hospitals was adopted. This pattern follows closely the classification developed by the United States Public Health Service and provides for inter-hospital coordination at the discretion of the hospitals and their staffs to the end that complete general hospital facilities will be available to all communities either through their own local facilities or on a voluntary referral basis to nearby institutions.

Certain conditions which have heretofore been cared for almost exclusively in special hospitals may with advantage be treated in general hospitals. They are:

a. Communicable Diseases. General hospitals can and should provide for care of patients with communicable diseases.

Hospitalization, when indicated, is just as necessary for this group of patients as it is for those with appendicitis or heart disease. It is true that hospital administrators

TABLE I. GRADIENTS OF HOSPITAL SERVICES

Facilities	Classification of Hospitals			
	Base Hospitals		District (Intermediate) Hospitals	Local Community (Rural) Hospitals
	Research and Educational	Medical Center		
Beds	250+*	250+*	100-250*	50-100*
Service Area	Local Area and Referrals From 100 Miles*	Local Area and Referrals From 75-100 Miles*	Local Area and Referrals From 25 Miles*	Local Area and Tributary Population
SERVICES:				
Surgery	X	X	X	XY
Internal Medicine	X	X	X	X
Obstetrics	X	X	X	X
Pediatrics	X	X	X	X
Communicable Disease	X	X	X	X
Tuberculosis	X	X	X	
Venereal Disease	X	X	X	
Other	X	X	X	
Orthopedic Surgery	X	X	XY	
Physiotherapy	X	X	X	
Cancer Clinic	X	X	X	
Psychiatric Service	X	X	X	
Cardiology	X	X	X	
Eye, Ear, Nose and Throat	X	X	X	X
Dentistry	X	X	X	X
Dietetics	X	X	X	X
Laboratory	X	X	X	X
X-ray	X	X	X	X
Pathology	X	X	X	
Bacteriology, Serology	X	X	X	XY
Chemistry, Hematology	X	X	X	XY
TEACHING:				
Medical Students	X			
Nurses	X	X	X	
Interns	X	X	X	
Residents	X	X		
Post Graduates	X	X		
Dietitians	X	X		
Health Education (Public)	X	X	X	X
Research (Clinical)	X			

* Approximate.
X Should be provided.
XY Should be provided for selective cases.

have been reluctant to accept known cases of communicable disease because they feared the possible spread of that disease to other patients in the hospital. "Yet it is axiomatic in general communicable disease control, that it is not the known, recognized case that is dangerous, but rather the unsuspected, undiagnosed case, who spreads the infection. For example, some hospitals will refuse to accept scarlet fever cases, yet will admit patients diagnosed as having 'strep throat'. Both of these conditions are caused by the same organism and are subject to the same control measures under the rules and regulations of the Illinois Department of Public Health. The only essential difference in the two diseases is the rash which makes scarlet fever easier to diagnose."[1]

In the past, when the bacteriology of communicable diseases was poorly understood and isolation nursing techniques were undeveloped, communities met the threat of transmissible diseases by building special communicable disease hospitals. Today, with the decline in incidence of most communicable diseases and the growth of knowledge relating to the control of cross-infections, many large communicable disease hospitals stand relatively empty for long periods and some of the smaller ones have not had an admission in years. The safe handling

[1] Illinois Department of Public Health, Weekly Report, Division of Communicable Diseases, Jerome J. Sievers, M.D., M.S.P.H., Chief, April 19, 1947.

of hundreds of cases of acute poliomyelitis in general hospitals in Illinois has encouraged public acceptance of this use of general hospitals. The rules and regulations of the Illinois Department of Public Health for control of communicable diseases, state that—"cases of communicable disease may be hospitalized in a general hospital or a children's hospital, provided that the patient is isolated in a private room or cubicle, or in a ward where none but patients with the same disease are kept, and further provided that strict isolation technique is observed." With the exception that nurses and attendants caring for communicable disease patients shall not come in contact with an obstetrical or surgical case immediately thereafter, the rules permit the care of communicable disease patients by general duty nurses, provided good isolation technique is employed.

Essentially the same principles apply to care of patients with venereal diseases which are also communicable diseases. With "rapid treatment" venereal disease patients can be admitted to general hospitals without the former discouraging aspect of their admission —the almost interminable stay.

The obsolete contagious disease hospitals now operated by counties, cities and villages should be discontinued, and those buildings which are fire resistive should be expanded to include the care of other types of illness or should be converted to some more useful community purpose.

b. Tuberculosis. While it may be anticipated that better tuberculosis control, improved case finding, and newer methods of treatment will change the need for hospitalization in this condition, it is believed that until such time as the seriousness of the extent of the tuberculosis problem in Illinois has been favorably altered, the special hospital for tuberculosis—the sanatorium—has an important function. Minimal or very early cases of tuberculosis as well as further advanced cases should find facilities available in the general hospital for their care for short term illness or pending transferral to a tuberculosis sanatorium.

In teaching hospitals and institutions of 250 or more beds, a tuberculosis section should be provided if there are sanatorium-like facilities and trained personnel.

The general hospital, nevertheless, has real responsibility in eradication and prevention of this disease. Many general hospitals refuse admission to known cases of pulmonary tuberculosis and promptly discharge cases diagnosed as such after admission. This procedure leads to withholding of information by known cases or the denial of necessary care to some cases that have two pathological processes merely because one of them is tuberculosis. The unknown cases of tuberculosis admitted for other illnesses and given intimate care by physicians and nurses are exposure hazards to all concerned, and are probably the major cause of the high incidence of tuberculosis among nurses and physicians. Routine chest x-ray of patients on admission and of employees would aid materially in the personal and public health aspects of this disease.

c. Nervous and Mental Diseases. The problem of care for psychiatric patients in general hospitals is similar to that of tuberculosis: admission is restricted by most institutions and the problem is of such dimensions that there will be a continued need for special institutions. It would be desirable to provide easily accessible facilities so that early cases which are amenable to treatment may be spared the inconvenience and the stigma of going to a distant special hospital for mental disease or of commitment to a state institution. Without proper facilities and personnel, mere insti-

tutionalization, however, would be of no great merit.

Although it is recommended by some authorities that from 10 to 15 per cent[2] of all general hospital beds be for psychopathic cases, the advisability and practicability of this policy for Illinois at this time is open to question. Certainly the large general hospital of 250 or more beds and the teaching institutions should contain suitable facilities for the care of short term neuro-mental cases. Both the teaching and the larger hospitals are fortuitously located in urban areas where the neuro-mental problem is more marked and where the highly trained psychiatric personnel are available.

d. Long-Term Patients. Modern medical science has shortened the convalescence of a great many diseases. There are, however, some notable conditions which require long periods of care with varying degrees of medical, nursing, and custodial services. With the gradual aging of our population and the growing relative importance of chronic illness of varying grades of disability and seriousness in all age groups, the medical, social and economic aspects of this problem merit all the consideration which they are obtaining at this time.

Ever increasing demands are being made of the general hospital, in many institutions to the extent of 20 per cent of all beds, for care of this group of long-term cases whose admission in a good percentage of cases is made more for social than for medical reason and whose stay frequently runs into years. This is a critical problem for the general hospital, the purpose and destiny of which is to provide care and early rehabilitation for the acutely ill.

When full and dispassionate consideration is given to the facts that general hospitals as exist today have plants which are attuned to the care of the acutely ill, have large staffs of highly trained nurses and other personnel required for care of patients whose condition may change decisively hour by hour, and have preventive medical responsibilities, it seems unwise to permit the use of these highly expert and costly facilities by cases which do not have immediate need for such equipment and personnel.

The high cost of care is especially noteworthy because the medical and surgical sections of the general hospital building are not designed to really meet the physical and emotional needs of long-term cases in any age group.

There is, to be sure, a shortage of beds for the chronic and long-term convalescent, and temporary expedients will have to be arranged. But, vision should not be turned from the fact that the acute units of general hospitals in communities of all sizes are constituted to care for cases amenable to treatment and to afford the principles of prevention to conditions that threaten to become chronic.

In the past, general hospitals have been reluctant to admit long-term patients because of the shortage of hospital beds, the length of stay of these cases, the lack of clinical interest in their disease, and the frequent additional obstacle of "no funds." Today pensions and various grants have come to the aid of the chronically ill, but the cost of general hospital care is rising to the point where it is almost as much above the amount the average chronically ill patient can pay as it was before the grants were available.

General hospitals, as the facility to serve community health needs, have a responsibility for the long-term convalescent patient whose recovery is delayed because the

[2] Mental Hospital Section, Robert Hanna Felix, M.D., Washington, Medical Director, Division of Mental Hygiene, U. S. Public Health Service; American Hospital Association Forty-eighth Annual Convention, Philadelphia, Pennsylvania, September 30 to October 3, 1946.

disease with which he is afflicted is not responsive to current methods of therapy. While it is quite generally agreed that the acute hospital unit should not become a home for the aged or permanently disabled, both the in-patient and out-patient facilities should be available to patients with chronic illness for diagnosis and for treatment for any inter current acute illness or exacerbation of the chronic condition. Beds should be available in accordance with such needs and provisions should be made for temporary care of cases pending transfer to a non-acute facility. Such non-acute facilities may suitably be provided in departments, wings or separate buildings of the general hospital unit. These facilities should include buildings and grounds, furniture and equipment designed for semi-ambulant patients and should lend themselves to the development of recreational and occupational therapy and rehabilitation programs. The facilities for the long-term pediatric case should lend themselves to the development of an educational program.

2. Size Should be Determined on Basis of Need. The size of a general hospital or the number of acute unit beds needed in a community will depend upon the number of people in the hospital area and the anticipated volume of referred cases. On the evidence that small hospitals have proved unable to afford the special services that modern medical practice expects when hospital care is indicated, careful consideration was given the question of fixing a minimum size of any justifiable construction in our State. Study of the population distribution, topography, our excellent system of highways, the disproportionately large fixed costs of operation of the small hospital and the low percentage occupancy that can be attained, resulted in the recommendation that general hospitals be of a size not less than 50 (approximately) beds. It is further recommended that insofar as possible larger constructions be programmed provided that the distance to be traveled to reach them does not exceed 25 miles (approximately) for the most remote group of persons. The consensus is that a distance of approximately 25 miles is not an excessive journey for people at the periphery of a hospital community to go for care in a sound hospital.

"The practical limit of a hospital area is established by the maximum time patients and their physicians will tolerate between home and hospital. After questioning farm people several years ago, it was learned that in the judgment of farm women hospitals should not be more than an hour away even in bad weather. This limit may be taken to be 30 miles under average conditions."[3] With the exception of emergency first aid, any condition that will not permit the traveling of this distance will not be materially benefited by care in the too small institution.

In communities where there is a demonstrated need for more than 100 beds, the resources should not be dissipated in two 50 bed facilities; likewise, in communities where the need is for 200 beds, one large facility should take precedence over multiple smaller ones because the larger the facility, the better equipped it can be, the higher the per cent occupancy, the more likely the appeal to medical specialists and the lower the relative per capita per diem cost of care.

Charles A. Rovetta, B.M.A., of the School of Business, The University of Chicago, in his discussion of the behavior of costs explains that from an economic point of view, variances in cost arise from differences in (a) prices paid for labor, supplies, and equipment, (b) size of operation and proportion of use of that operation, and (c) effectiveness and efficiency with which various factors of service are used. Fixed and variable expenses comprise costs. The fixed expenses do not vary appreciably in total

[3] Southmayd, H. J., Rural Hospitals in Administrative Medicine edited by Haven Emerson, A.M., M.D., 1941, page 25.

with changes in amount of service rendered, but variable expenses change substantially in total as amounts of service vary. The total of fixed and variable expenses when divided by the number of units of service gives the average cost for each unit of service. The relatively high fixed charges and the low number of units of service which may be provided in the small hospital result in the disproportionately higher cost of care in small institutions.

Excessively large institutions, of over 500 beds, present the obstacles of cumbersome and impersonal administration and, except for teaching centers, may wisely be avoided.

The problem of determining the number of beds needed in an institution to meet the demands of a community may be solved by one of two methods—(1) beds per 1,000 population, (2) the bed-death ratio.

(1) Beds per thousand population
This method is based on judgment and long established precedent. In its use it needs to be modified to reflect local conditions and practices relating to the referral of certain types of cases.

Public Law 725, the Hospital Survey and Construction Act, requires distribution of general hospital beds among the different areas of the State in accordance with the bed-population ratio. The maximum State allowance for Illinois is 4.5 beds per thousand population,[4] which beds are to be distributed as follows: 2.5 beds per thousand population in rural areas (under 25,000 population) 4.0 beds per thousand in intermediate areas (25,000 to 100,000 population) and 4.5 beds per thousand in base areas (100,000 or more population and having a hospital approved for training of interns and of residents in at least two specialties.) The total number of beds not distributed locally after applying the above ratios shall be distributed at the discretion of the State Survey and Planning Authority, in a manner to meet special needs in rural areas and communities with relatively small financial resources.[5]

[4] Public Law 725, Section 622 (a).
[5] Title 42, United States Public Health Service, Part 10.13 (Regulations pursuant to Sections 622 of Public Law 725.)

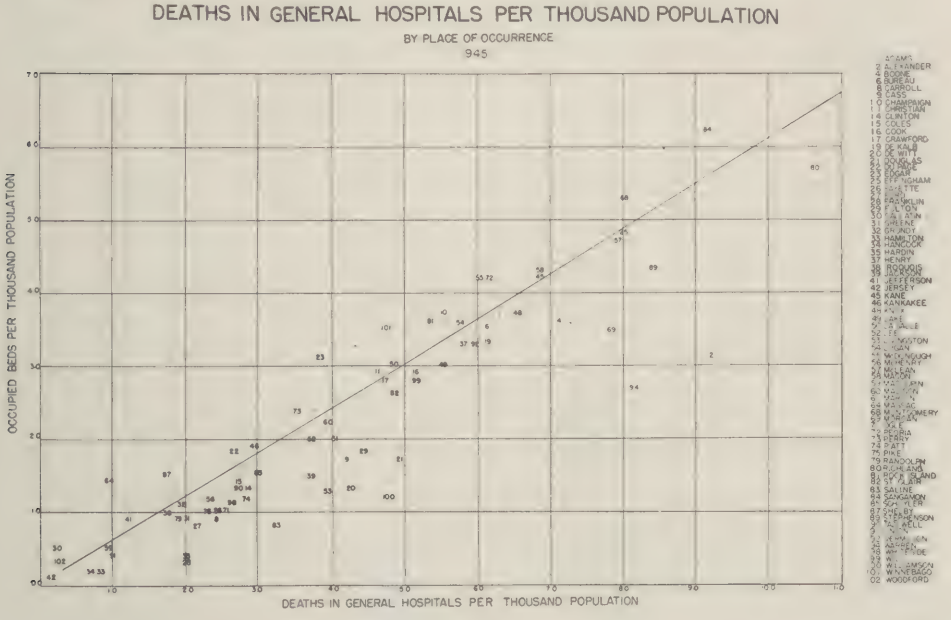


FIG. 1.

(2) The Bed-Death Ratio.

This is a formula determined by the studies of the Commission on Hospital Care. It takes into consideration the fact that the need for general hospital beds in any area depends upon the amount of current and prospective sickness which requires hospitalization. Inasmuch as useable data on sickness are not available, it is impossible to show definite relationship between sickness and the need for hospital beds. It has been found, however, that there is a definite correlation between sickness and deaths[6]; therefore, this formula is able to relate bed needs to deaths.

Hospital and vital statistics show, for the country as a whole, that the public uses about 250 days of general hospital care for each death and associated sickness in a general hospital. This relationship may also be expressed in terms of occupied beds (average daily census) per death by dividing 250 by 365 which equals 0.685 or about 0.7. (The comparable Illinois figure is obtained by dividing 211 by 365 which equals 0.579 or 0.6). This is the *bed-death* ratio. It indicates that for each hospital death in Illinois six-tenths of a bed is used for one year. The practical value of this ratio lies in its use as a prediction factor for estimating needed beds.

The validity of using the bed-death ratio as an estimating factor lies in the fact that the ratio is fairly constant from state to state, and from county to county in Illinois. (Chart: Deaths in General Hospitals per Thousand Population, Illinois 1945.) The results of applying this ratio must be modified in accordance with (1) equitable distribution of base (medical center) facilities; (2) factors within the local population which affect the need for and use of hospital facilities—such as preponderance of aged and younger population groups, birth rates, communicable disease incidence, and ability to purchase care; and (3) reasonable proximity of venereal disease, cancer and other clinics, and special facilities for the care of premature infants and long-term illnesses.

Both the bed-population and bed-death formulas and the evidence presented by a tabulation of the percentage occupancy statistics of hospitals registered by the American Medical Association for the years 1937 to 1946 inclusive[7] were used in the Illinois calculations for needed general hospital beds.

The determination of size of community general hospitals is further affected by the bed occupancy rate. A general hospital should have enough beds to meet day-to-day and seasonal variations in demand for in-patient care. A hospital should neither be forced to turn patients away nor to use corridor and other space not constructed for patient use. Large reserves are impractical and uneconomical.

A Study of the Commission on Hospital Care reveals that the extreme limits of occupied beds will not be greater or less than the average census of hospital patients plus or minus approximately four times the square root of the average daily census. For example, in a hospital with an average daily census of 36 patients, the range in daily census would be from 6 to 60 patients. If such a hospital were to serve its community adequately it should have about 54 beds if occupancy is expected to be at a high level (crowded conditions), or 60 beds if the level of occupancy is expected to be low. High level occupancy usually means some overcrowding during periods of peak patient load, necessitating earlier discharge of patients and other emergency measures.

A study of Table 2 shows the infrugality in use of beds in small institutions. These findings emphasize the value of

[6] Commission on Hospital Care, "Hospital Survey News Letter" July 1946.

[7] Journal of American Medical Association, hospitals registered by the A.M.A., Illinois. Vol. 108, 1937, No. 13; Vol. 110, 1938, No. 13; Vol. 112, 1939, No. 10; Vol. 114, 1940, No. 13; Vol. 116, 1941, No. 11; Vol. 118, 1942, No. 13; Vol. 121, 1943, No. 13; Vol. 124, 1944, No. 13; Vol. 127, 1945, No. 13; Vol. 130, 1946, No. 16.

TABLE II. THEORETICAL RELATION OF PERCENTAGE OCCUPANCY TO SIZE OF HOSPITAL[8]

Expected Average Daily Census* (C)	Square Root of Average Daily Census	Estimated Beds Needed		Percentage Occupancy	
		Low Level Occupancy $C+4\sqrt{C}$	High Level Occupancy $C+3\sqrt{C}$	Low Level	High Level
9	3	21	18	42.9	50.0
16	4	32	28	50.0	57.1
25	5	45	40	55.6	62.5
36	6	60	54	60.0	66.7
49	7	77	70	63.6	70.0
64	8	96	88	66.7	72.7
81	9	117	108	69.2	75.0
100	10	140	130	71.4	76.9
121	11	165	154	73.3	78.6
144	12	192	180	75.0	80.0
169	13	221	208	76.5	81.3
196	14	252	238	77.8	82.4
225	15	285	270	78.9	83.3
256	16	320	304	80.0	84.2
400	17	477	460	83.9	87.0
625	18	718	700	87.0	89.3
729	19	829	810	87.9	90.0

*For convenience in computation perfect squares were chosen.

large hospitals over multiple small institutions, the total beds of which equal those of one large institution.

In planning a community general hospital, consideration must be given to the practicability of providing all essential services. Such provision, in most instances, depends upon the size of the hospital which in turn depends upon the size of the community to be served. In large institutions, special facilities in separate buildings, departments or wings may be defined. In small hospitals, on the contrary, the organization structure must be flexible so that units of the hospital may be utilized in accordance with prevailing demands.

Hospitals of all sizes, particularly those in the rural areas, should be easily accessible. Although patients have long sought care in distant cities for special problems, there is ample reason to believe that people will go to the nearest hospital if such a hospital is able to furnish care of a quality that will merit public confidence. Readily accessible hospitals, in conjunction with the expansion of prepayment plans for care, will encourage hospitalization early in an illness, and would thereby promote better public health.

[8] Hospital Survey News Letter, June 1946, (Commission on Hospital Care).

B. THE TUBERCULOSIS HOSPITALS

A committee representing the Illinois Tuberculosis Association, the Illinois Trudeau Society and the Governor's Advisory Council on Tuberculosis Control was asked for recommendations as to size, geographical distribution, and type of hospitals to provide adequate tuberculosis treatment facilities in Illinois. The guidance of this committee is reflected in the development of the following program for care of the tuberculous in this State: :

(1) Size—Beds for care of tuberculosis patients should be planned at the rate of 2.5 beds for each average annual death from tuberculosis in the State over the five year period from 1940 to 1944 inclusive. The committee emphasized that nothing be done to encourage the belief that because of the small number of cases currently being found there is no need for an increase in sanatorium beds. Many of the cases that are and will be found are chronic cases that will require hospitalization, perhaps for years.

The committee recommends that the optimum bed capacity for a tuberculosis sanatorium be 200 beds and that the maximum be 300 beds. It is pointed out that

it is better to locate near the centers of population in areas of need reasonably small sanatoria which are, nevertheless large enough to provide all the special facilities required for good and modern care for each and every patient. Sanatoria exceeding 300 beds are felt to be top heavy and inefficient because of managerial difficulties. Furthermore, large sanatoria would increase the radius of the community served and thus again reduce effectiveness.

(2) Location.—The needed additional facilities should be built in areas that now have a deficit of tuberculosis beds. The committee recommends that prime consideration be given to the southern counties of the State and to the Chicago-Cook County area in locating tuberculosis hospitals. This need, in actual numbers is shown in the analysis of existing tuberculosis hospitals.

Tuberculosis facilities shall be in proximity to a general hospital in an inter-related plan for care in order that patients afflicted with this disease may have the use of the general hospital facilities and staff as needed.

(3) Sanatorium Facilities — The committee recommends that sanatoria should provide facilities for adequate bed rest and graduated exercise, and should have a well planned and directed program of education. There should be facilities for all forms of collapse therapy, to include major and minor surgical procedures. Facilities should be included for bronchoscopy. Complete laboratory facilities should be provided. The committee urges that X-ray and fluoroscopy be provided for sanatoria as recommended by the National Tuberculosis Association. An out-patient department supervised by well trained personnel, including a field nurse, should be a part of every sanatorium. The sanatorium should meet all the requirements of the American Medical Association and the American College of Surgeons and should be directed by well trained tuberculosis specialists chosen under a non-political merit system.

(4) Divisions in General Hospitals —The committee recommends that the development of tuberculosis divisions in general hospitals be postponed until such time as control measures reduce the incidence of the disease to the occasional case level. The committee feels that the tuberculosis control problem is so serious in Illinois that divisions in general hospitals for such care could not adequately meet the situation.

The committee recommends that not over 10 per cent of the beds of the teaching hospitals of the State (Base Hospitals) be assigned to tuberculosis for diagnosis, study and outline of treatment of tuberculosis patients for teaching purposes among doctors, residents, interns, medical and nursing students. This recommendation contemplates that the facilities of the teaching hospital would not be used for long-time sanatorium care, but only for teaching and research purposes with transfer of patients to sanatoria for the required long-time care.

The worthy suggestion has been made that any new construction of tuberculosis hospitals be convertibly designed so that such buildings could become general hospitals or chronic disease hospitals when tuberculosis is controlled to the extent that the plants are not used to economical capacity as exclusively tuberculosis hospitals.

C. NEURO-MENTAL HOSPITALS

The problem of providing adequate facilities for the care of neuro-mental patients in Illinois has to a large extent become the responsibility of the people. The measure of this responsibility is revealed in the records which show that

98.3 per cent of the hospitalized mentally ill patients in the State during 1945 were in State mental hospitals which are under the administration of the Department of Public Welfare. The statistics from this Department indicate that most of the current patient census has been in residence for many years and even decades and that there is at present small hope of cure or material improvement in the mental status of most of the inmates. The outlook, therefore, for the bulk of the case-load in the State mental institutions is, under prevailing circumstances, one of providing domiciliary and custodial care for the remainder of the natural lifetime of these patients.

From the facts at hand it seems that the government-operated large mental institutions providing humanitarian custodial care for these patients and security to the remainder of society from their possible abnormal action are permanent necessities in our civilization. In planning for the future of these institutions, the following factors should be taken into consideration:

(1) Size—Mental hospitals should be of a size sufficient to permit economical operation, but for purposes of adminstration the size should not exceed 3,000 beds.[1]

(2) Location — Mental hospitals should be located in or near large urban communities to facilitate visiting by friends and relatives of the patients and to afford ready transportation for personnel. Mental hospitals located away from centers of population may anticipate difficulty in attracting personnel and, in addition, must provide living quarters on the grounds for the personnel and their families. Employees in all hospitals deserve the opportunity to have an existence away from the institution and to participate in community recreational and educational activities.

(3) Facilities—Federal regulations specify that a mental hospital should be on a large acreage with ample space around all buildings for recreation, attractive landscaping and the proper segregation of the various patient classification groups and building functions; and should be readily accessible to the community which it is to serve. This type of facility must contain a reception unit and units for convalescent and for chronically disturbed patients, as well as facilities for those patients whose mental disease is inactive and who are able to participate in some type of work. In addition, the mental hospital should provide a general hospital unit for care of mental patients who also have medical, surgical, tuberculosis, or chronic diseases.

The reception area which provides for diagnosis, intensive care and treatment of new admissions should include arrangements for the following classifications of behavior problems: quiet, depressed, and disturbed. The reception area should be set well apart from the other areas of the hospital and should contain sufficient diagnostic, treatment, recreational and occupational facilities to furnish complete treatment in order that new patients amenable to treatment may recover without having been transferred to the other areas of the mental hospital.

The convalescent area is considered a part of the reception area for those patients who are expected to recover within six months to a year. This type of patient area should be in proximity to the reception center in order that special treatment such as mechanical fever, electric shock, special electro and hydrotherapy, and insulin, etc., can be given with convenience. The idea is that most of these patients are continuing to receive the intensive treatment afforded by the reception center but well enough and manageable enough to go freely or be escorted to their activities.

[1] Title 42, U.S.P.H.S. Part 10.52 (Regulations pursuant to Section 622 of Public Law 725).

For the chronic disturbed there should be facilities separate from the main group of mental hospital facilities because of possible noise or other disturbances.

The mental hospital unit will need to provide extensive accommodations for patients who are not acutely disturbed and who will probably be confined in the institution over a long period of time. For this group of cases occupational and recreational therapy programs should be well provided.

The medical and surgical area of the mental hospital should be provided in order to care for acute illnesses. It should include a complete modern general hospital to serve the entire mental hospital community. Infirmary facilities in connection with the medical and surgical units may be necessary.

The huge waste of humanity and the enormous and increasing cost of care of the mentally ill are provocative of the development of new methods to control this community health problem. The regulations pursuant to Section 622 of the Hospital Survey and Construction Act differentiate a mental hospital from a psychiatric hospital. The psychiatric hospital is a facility where patients may receive intensive and early treatment and where only a minimum of continued treatment facilities will be afforded. The psychiatric hospital or the psychiatric wing or services in a general or mental hospital will be the type of unit which will afford opportunity for care of patients in the early stages of nervous and mental diseases when therapy is most likely to be effective. Full consideration of this phase of the problem has resulted in the following recommendations:

(1) Size—The size of psychiatric units should be not less than 10 nor more than 500 beds.

(2) Location—The development of psychiatric facilities as separate buildings in a general or mental hospital unit or as a department in a general hospital should be encouraged in all urban areas where the population is sufficient to support the clinical interest of the necessary trained personnel, and in places where such personnel might reasonably be expected to be available in the not too distant future.

(3) Facilities—All psychiatric units should provide complete psychiatric services for both in-patients and out-patients. The direction of psychiatric hospitals should be under competent medical specialists with the administration of public psychiatric facilities in the Department of Public Health.

The framework as outlined above for neuro-mental hospitals provides specialized facilities for: (a) acutely disturbed patients, (b) convalescing patients, (c) long-term patients requiring continued treatment, (d) patients requiring continued custodial care, (e) patients with acute physical illness, (f) tuberculosis psychiatric patients, and (g) alcoholics and drug addicts.

The number of beds believed to be required for adequate hospital service for neuro-mental patients of all categories, and the ratio used in the Hospital Survey and Construction Act, is 5 beds per 1000 population. Whether or not this number is sufficient or excessive is dependent upon further analysis of the problem through development of programs for the recognition of early cases of mental derangement, the establishment of a case registry as is now available for certain communicable diseases, tuberculosis and other disabilities, and the adherence to admission policies in the State institutions. Any substantial progress in the application of the principles of preventive and curative psychiatry is dependent upon adequate numbers of trained medical, nursing and allied personnel in accordance with the standards of the National Committee for Mental Hygiene, the American Psychiatric Association, and the National Mental Health Act.

D. CHRONIC AND CONVALESCENT HOSPITALS

The problem of providing care for children and adults chronically ill or needing long-term convalescence seems inextricably interwoven with that of furnishing custodial and domiciliary care for incurables, geriatric cases, and boarding home care for children. Progress toward the development of methods of provision of needed facilities can follow only upon clarification of the nature of the problem. The many conferences with excellent agenda on this subject have, notwithstanding, served to a certain extent to enlarge upon the confusion by including in the category of the chronic the heretofore segregated and well-defined problems of tuberculosis and mental illness. These latter two conditions have long been provided for to varying extents in separate institutions and are clearly recognized as specialty fields of medicine. It is true that both tuberculosis and neuro-mental care are long-continuing processes which label the diseases as chronic in distinction to acute conditions. But, the large issue of the long-term cases suffering from degenerative diseases, either inherited or acquired, is worthy of consideration separate from the medical and hospital aspects of tuberculosis and nervous and mental illness.

Optimum facilities for care of these long-term cases would vary in accordance with the needs of the disease category and age group into which the patient is classified. The consensus is that there are the following groups of patients in the chronically ill category:

1. Patients Requiring Diagnosis, Intensive Medical Care and Treatment. These patients have real need for the full provision of the general hospital or a special hospital designed particularly for their care. It is recommended that such a special hospital unit be provided in affiliation with a teaching institution in order to emphasize both education of physicians and research into the fundamentals of this heterogeneous group of incapacitating diseases. Such an institution should provide for all age groups of the chronically ill, and should furnish ample specialized services for ambulatory cases. It is further recommended that the units for care of long-term cases in general hospitals be of at least 10 beds. In order that a general hospital which provides facilities for long-term cases retain its identity as a general hospital the amount of care provided for long-term cases should not exceed 50 per cent of the total patient days. This automatically places a ceiling on the size of unit to provide care for this group of patients.

2. Patients Requiring Chiefly Skilled Nursing Care and Rehabilitation Under Medical Supervision. This group of patients may obtain this service in a special wing of a general hospital or in a separate institution especially designed for non-acute cases. Such separate institutions should be near general hospitals or have a close liaison with a complete general hospital. They can include the institutions now termed convalescent homes, nursing homes, and county homes, provided that such places are equipped to furnish and intend to afford more than mere room and board. All of these units should contain (1) suitable facilities for patients, such as low beds, ramps, solaria, dining rooms, grounds, etc.; (2) opportunity for occupational and recreational therapy and vocational rehabilitation programs; (3) arrangements for economical use of the time of physicians and nurses and (4) a lower cost of operation than general hospitals, per se.

It is recommended that the plants of county homes originally constructed for care of the destitute, and now little used by virtue of the Social Security and Illinois Public Aid Commission programs, should insofar as possible be converted in the manner provided by the Rennick-Laughlin Bills to nursing homes for the chronically ill. The physical plant, though old, can in most instances be adapted along the lines described above.

Nursing homes are institutions which provide varying amounts of nursing care for patients who are not

entirely able to assume responsibility for their own physical needs. These patients may be for the most part under some degree of medical supervision but are the victims of ailments which are not amenable to current therapeutic procedures. Any medical care which they receive is secondary to the custodial care which they require. The nursing home is an institution which in its function is intermediary between hospitals and homes and experience has been that they more nearly approximate homes. These facilities, with the exception of units as part of a general hospital, are not at this time to be considered as hospitals and regardless of whether the control is governmental or private, they may not be considered as eligible for Federal grants-in-aid under Public Law 725. That the development of additional beds and facilities in these institutions should be encouraged is revealed by the reports of students of this problem throughout the world. The Bidwell report and the second interim report of the Commission on the Chronically Ill recognized a great need for additional facilities of the nursing home type in Illinois. The Illinois Hospital Survey has in its analysis of existing facilities fully considered those institutions which are classified as nursing homes, but inasmuch as the Federal regulations specifically exempt institutions of the nursing home category from the benefits of Public Law 725, the State Plan does not include recommendations for numbers of and distribution of the nursing home type of facility.

If suitable facilities in adequate number could be developed for patients who require nursing care under medical supervision but have no real need for the expert services of the general hospital, there is no doubt that general hospitals would be favorably affected by having an avenue of discharge for patients who are no longer in the acute phase of an illness, and the patients themselves would be happier in environment more carefully attuned to their needs.

3. Patients Requiring Only Custodial or Attendant Care. Facilities for this category of patients who require only custodial or attendant care are not considered hospitals; therefore, they are a part of neither the Survey nor the Plan. This group of institutions includes particularly those listed as homes for aged, life care institutions, boarding homes, foster homes, and orphanages.

E. LOCAL HEALTH FACILITIES

Although the services provided by local health departments are subject to variation in accord with community conditions, there is general agreement that the minimum public health services include the following:

1. Health education
2. Control of Communicable disease
3. Sanitation
4. Maternal and child health services
5. Vital statistics
6. Laboratory services

The services in the field of health education include promotion of community organization for health education purposes, distribution of literature, showing of films before various organizations interested in public health, lectures, talks, and additional services of this type.

The control of communicable diseases includes the collection of reports of the incidence of communicable disease, the isolation of patients having such diseases, the quarantine of contacts of these patients, when indicated, the promotion of immunization against those diseases for which good immunizing agents are now available, careful investigation of epidemics to determine the sources from which these started, public health nursing visits to homes in which there are communicable diseases for the purpose of assisting the family in coping with these situations. The Communicable Disease Control Program also includes endeavors aimed at the discovery of early cases of tuberculosis and the promotion of the hospitalization of such persons in tuberculosis sanatoria as well as a program for the discovery of persons having venereal disease and the promotion of the treatment of such persons and sources and contacts of these individuals found to be infected.

The sanitation program includes promotion of proper methods of disposal of human wastes; promotion of a safe water supply for all individuals in the health jurisdiction; eradication of rodents and insect pests that are potential carriers of disease; educational procedures and inspectional visits to food-handling establishments, dairies, and milk plants for the purpose of assuring the community of a safe food supply.

The maternal and child health services include the promotion of adequate prenatal and postnatal care for maternity cases; public health nursing visits to homes in which there are maternity cases, infants, preschool or school children; the development of Well Child Conferences and school health programs so that preschool and school children may have periodic physical examinations in order to discover physical defects which are often not apparent; the promotion of better dental health; and the encouragement of families to follow good nutritional practices.

The program of vital statistics includes the collection and tabulation of information in regard to births and deaths and the analysis and interpretation of this information so that public health programs may be modified from time to time to meet the changing needs of the community.

Public health laboratory services are provided, either through the facilities of an existing laboratory in the health department or a branch laboratory of the Illinois Department of Public Health, for the purpose of assisting physicians in the community in the diagnosis of communicable diseases.

To provide these basic services the staff essential in each health jurisdiction should include in addition to the health officer, one public health nurse for each 5,000 population, a sanitary officer for each 25,000 population, a health educator and a clerical staff sufficient in size to meet the needs of the department.

The Searcy-Clabaugh County Health Department Law which was passed by the General Assembly in 1943 permits counties or groups of adjacent counties to establish health departments and to levy a tax for their support. The provisions for local health services in Illinois are in complete agreement with the specifications of Public Law 725 and the regulations developed thereto. The wise provision for multiple county health departments enables the relatively sparsely populated counties in rural Illinois to receive full time public health services through joint arrangements.

Local health units are autonomous in their function and community responsibility, but have, nevertheless, access to the guidance and material assistance of the State Health Department through the specialized divisions.

Efficient and effective operation of community health services, as in the case of other services, is dependent upon careful and appropriate planning of the quarters occupied by the health department. The question as to whether or not the health department should be housed in the hospital structure is one which can best be considered after taking into account the local situation. It may be pointed out, however, that there are certain definite advantages to having the quarters of health departments as part of the hospital structure. Such arrangement would enable the health department and the hospital to make common use of diagnostic laboratories, x-ray equipment, and refrigerators for biological agents. This arrangement would also enable the health department and the hospital to share certain technical and non-technical personnel such as bacteriologists, serologists, laboratory and x-ray technicians, maintenance personnel and others. In instances where the local government prefers a separate structure for the health department, this building should be near the hospital. A more general understanding of major health problems by the hospital and health department staffs cannot fail to pay good dividends in improved community health.

F. COORDINATION OF HOSPITALS

The foregoing sections which outline major concepts for hospitals and local health facilities in a categorical manner might lead to the conclusion that each

type of facility and kind of service is separate, distinct, and easily circumscribed. This is essentially not the intent; the various facilities were discussed separately because they could not be described simultaneously. Three of the hospital types described are of the general category: Base, Regional and Local Community; the others are special hospitals for tuberculosis, neuro-mental, convalescent and long-term illnesses. The end in view is to provide not only beds and other patient facilities but to recognize a pattern of distribution which will permit coordination of all health services between the various types of hospitals and local health units and which will encourage expansion and development of clinical teaching and research.

In a democratic society, the solution of health problems like the solution of other problems, must avoid parochialism and take advantage of not only local planning, but regional and area integration. It is believed that liaison relationships between small and incomplete hospitals, specialized institutions and large medical centers and between all types of hospitals and health agencies can with reciprocal advantage be developed on a voluntary basis. The small rural or community general hospital and the specialized institution need not be isolated as separate and entirely independent agencies but could enjoy the privilege of interchange of patients and professional skills in accordance with patient needs and professional desires. There are numerous references to the value of coordination between and among hospitals which have developed several different types of working relationships to allow integration of services among them.

There has been no significant experience in Illinois with methods for establishing and maintaining the flow of both professional services and patients between institutions of one type and another in order to use and integrate all levels of service efficiently. The fears that autonomy of individual institutions might be lost and that patients might become agents of individual hospitals to be shuttled back and forth in an impersonal manner have impeded development of the practicable aspects of this idea. There is, however, substantial agreement that the small community hospitals should be affiliated with larger hospitals in the region. Such affiliations would encourage administrative assistance and use of specialist consultations. The medical staff of a larger facility would be able to provide consultation, supervisory and diagnostic services to the smaller institutions. Staff policies should be such that physicians of either facility would be able to attend their patients in conformity with general staff policies. Regional hospital councils comprised of representatives of the various institutions in the community should be created in order to facilitate joint discussion on integration of services of the institutions of the area.

Beginnings, in a small way, have been made in a few areas of the State as an outgrowth of the districting of the State Hospital Association membership. These efforts might be reactivated and expanded to be centralized at the major facility in the area and to include representatives of all hospitals, the medical, dental and nursing professions, administrators of official and voluntary health and welfare agencies and the general public.

In a similar manner the professional personnel in the medical center facility and its tributary area might conduct continuation courses, and conduct studies in analyses of vital statistics and clinical experience on a regional basis rather than by county society or individual hospital. Strategic placement of facilities and earnest attempts at correlation and cooperation can be expected to attain throughout our State greater economy, expediency and more equitable distribution of the benefits of modern medical and hospital care.

CHAPTER II. DEMOGRAPHIC FACTORS PERTINENT TO HOSPITAL PLANNING

Planning of hospital facilities in accordance with community needs requires an understanding of population distribution and trends; the size of communities and their tributary population; the location of adjacent well-equipped hospitals; the customs of people with regard to use of hospital facilities; local health indices; the availability of physicians, nurses and other staff personnel and the financial ability of the community to construct, maintain and operate a hospital.

A. POPULATION FACTORS AND TRENDS

The number of hospital beds needed for a defined area is dependent upon the number of persons to be served in the area in addition to the metropolitan character of the area. In hospital communities that are chiefly rural-farm or are composed of towns having a large proportion of single unit dwellings, there is a tendency for families to take care of their sick at home. The opposite is true in the more highly concentrated population areas where compact living accommodations leave no room for the care of the sick in the home. In computing the number of beds needed for an area consideration should be given to trends in fertility, death rate, disease incidence and the development and use of existing hospital facilities.

The population of Illinois at the time of the 1940 census was almost 8,000,000. The total estimated population for 1946 was 8,180,000. The population distribution varies throughout the State from

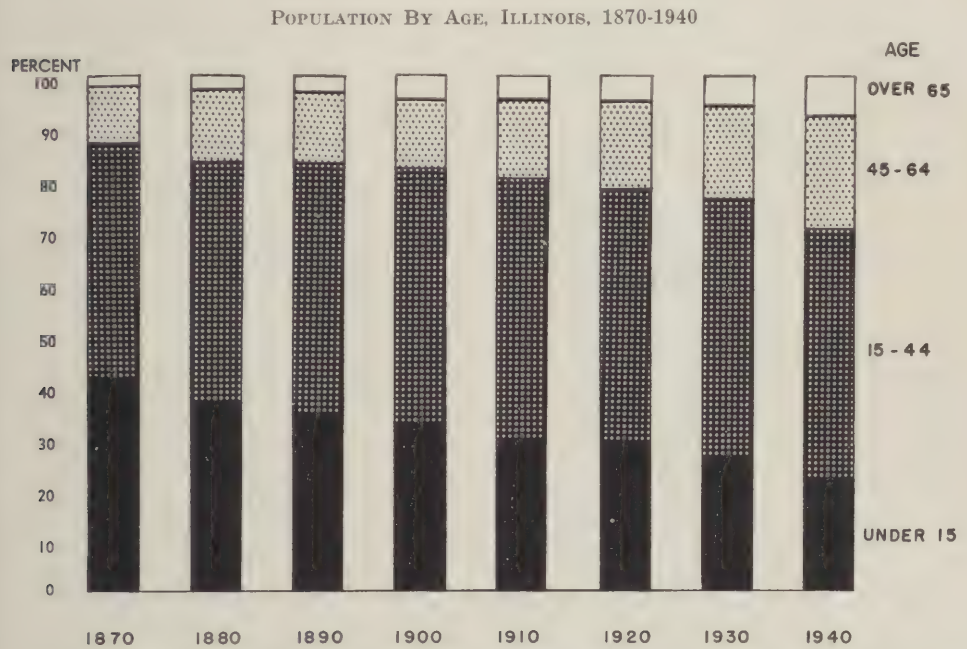
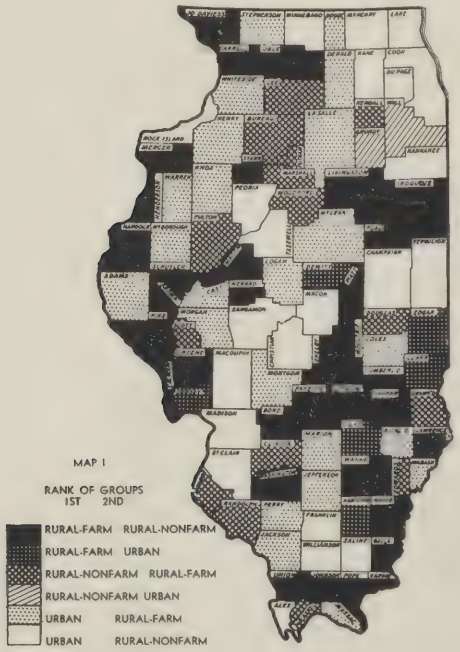


FIG. 2. POPULATION OF ILLINOIS BY AGE, 1870-1940. The trend in the age distribution from 1870 to 1940 shows that an ever increasing proportion of the population is 65 years of age or over. Since the need for hospitalization as indicated by general morbidity and mortality rates increases with age, this trend is important in calculating the need for hospitals. The proportion of the population between the ages of 15 and 44 years does not vary by more than one per cent. There is a large relative decrease in the population under 15 years of age and an increase in the proportion of the population between 45 and 64 years.

the super metropolitan area of Chicago to counties containing no incorporated towns of over 2,500 people. The density varies from a low of 21 persons per square mile in some rural areas to 4,259 persons per square mile in Cook County with an average density of 141 per square mile.[1] During the early decades of this century there was a substantial percentage increase in total population reported in each succeeding census until the decade 1930-1940 when the percentage increase was only 3.5. The trend since 1900 has been a decrease in the relative number of people in rural areas with a corresponding increase in the urban population. Although it is probable that the day of great urban concentrations of people is past, we may, according to the pre-war trend, expect an increase in suburban and country living by urban workers.

Data from The Bureau of Agricultural Economics[2] reveal that the farm population of the United States was 11 per cent less in April 1946 than in 1940 and smaller than it had been at any time during the fifty years prior to 1944. It is, moreover, the expectation that the size of the farm population of the country as a whole will, by 1950, be further decreased. Electrification and mechanization are rapidly extending to rural areas, but at this time there are no studies to indicate the impact therefrom on population distribution in the open country of Illinois. Employment opportunities in agriculture are diminishing, and the farm residents will be obliged to seek non-agricultural employment in

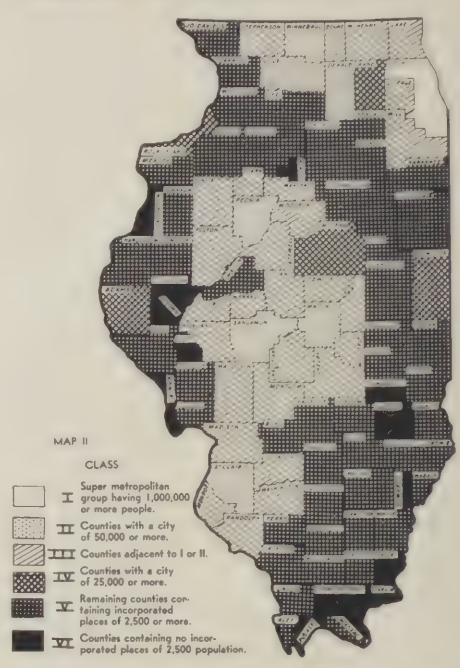
POPULATION BY RESIDENCE, ILLINOIS, 1940



MAP I. POPULATION BY RESIDENCE, ILLINOIS, 1940. The population of Illinois in 1940 was 73.5 per cent urban, 14.2 per cent rural non-farm, and 12.3 per cent rural-farm. The population density was 141 persons per square mile. This density varies within the State from 21 people per square mile in Pope County to 4,259 in Cook County. There was a large percentage increase in the urban-farm and rural-non-farm groups from 1930 to 1940 accompanied by a decrease in the rural-farm group. The population of the entire State increased only 3.5 per cent within the decade.

This map illustration has been planned to show as the darker areas, those counties which are predominantly rural. It is interesting to note that many of the darkest areas are comprised of large blocks of contiguous counties.

METROPOLITAN CHARACTER OF COUNTY



MAP II. METROPOLITAN CHARACTER OF COUNTIES, ILLINOIS, 1945. This map shows the general distribution of large urban centers throughout northern and central Illinois with a large block of contiguous counties which do not have any urban center of 25,000 or more population. The lack of a single large urban center in the southeastern part of the State makes it difficult to provide for a sizeable, well-equipped central hospital facility that might figure as a medical center hospital in a coordinated plan for hospitals.

[1] Sales Management, Inc., New York, April 10, 1942.

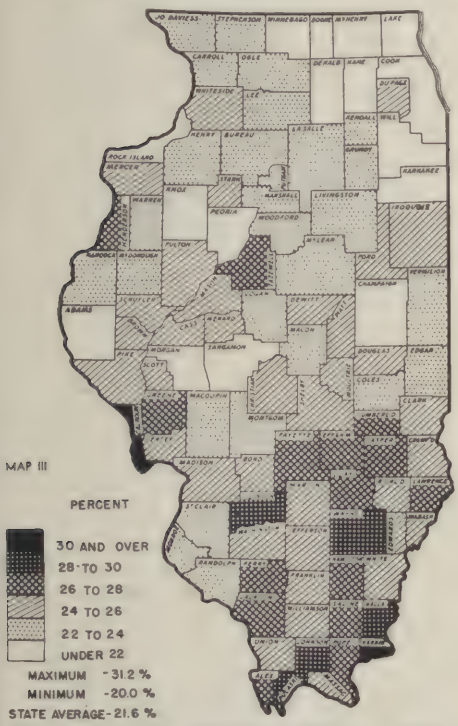
[2] Recent Trends of Rural-Urban Migration in the United States. Conrad Taeuber. The Milbank Memorial Quarterly XXV, 201-213, April 1947.

urban manufacture. The extent of employment of Illinois farm people in industrial occupations is shown in a table and chart in the appendix. These factors of population density, the trend toward urbanization and the establishment of commutation habits by rural people are significant in determining the area to be served by a hospital.

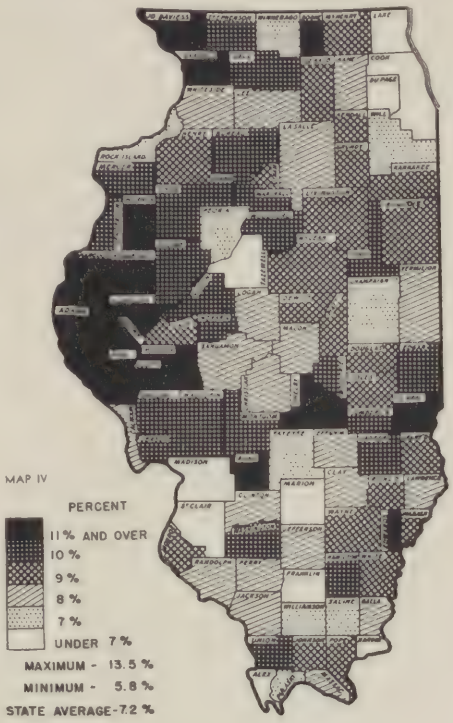
Inasmuch as one of the main objectives of the nationwide study of hospitals is the development of workable plans to provide modern hospital facilities and their attendant advantages to the sparsely settled rural communities, this phase of the problem merits special comment. Almost invariably in the areas of low population density there exist, in addition to the lesser number of persons to be served, fundamental geographic and social components which are unfavorable to material advancement. The hospital needs of the people in these areas may be met in either of the two following ways: (1)Numerous small hospitals scattered throughout the rural communities, or (2) fewer larger hospitals with greater distances between them. The advantages of the small hospitals would be the shorter distance that people would have to travel in order to reach them; the disadvantages are that the small hospitals, especially institutions of less than 50 beds, are usually incomplete in services and, due to the combination of high overhead and low percentage occupancy, unduly expensive to operate.

The best way to provide acceptable modern hospital facilities at a reasonable cost for rural communities is for groups of these small villages and towns to band together in the formation of a hospital community. The inconvenience of not having a small hospital in each town

People Under 15 Years of Age, Illinois, 1940



People Over 65 Years of Age—Illinois, 1940



Maps III and IV. PEOPLE UNDER 15 YEARS OF AGE AND PEOPLE OVER 65 YEARS OF AGE—1940. The per cent of the population under 15 years of age as of the 1940 census is shown by county in Map III. This map indicates that the counties with the higher percentage of their population under 15 years of age are for the most part south of Springfield and also that metropolitan areas have smaller percentages under 15 years of age. These percentages range from a low of 20.0 per cent in Cook County to a high of 31.2 per cent in Hardin County.

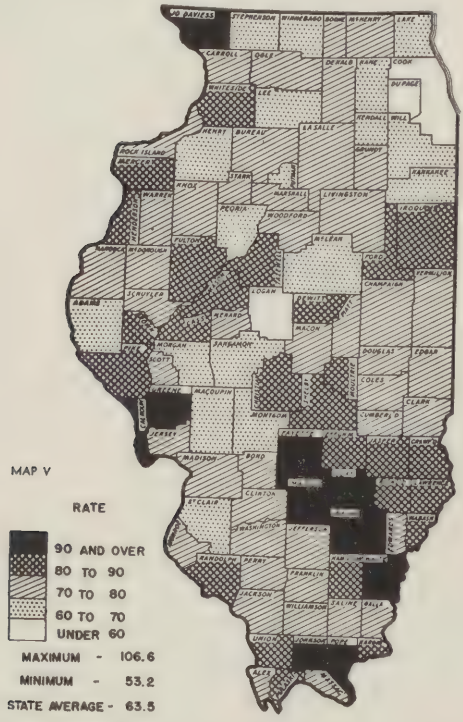
As in the map on distribution of children, metropolitan areas have lower percentages of the aged. These percentages range from 5.8 in Cook County to 13.5 in Hancock County. This map deserved careful consideration in planning hospitals and related facilities for the care of the aged.

can be minimized by the favorable location of the facility within the hospital community area and by a system of good roads together with the development of dependable ambulance service.

B. VITAL STATISTICS

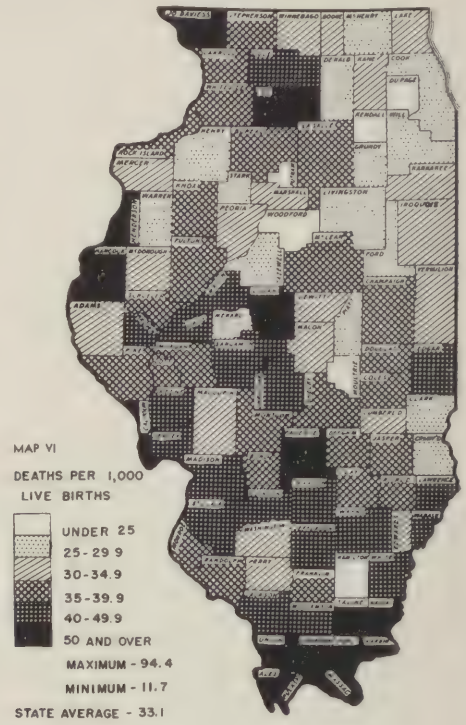
The health record of a community as mirrored in statistics on births, infant and maternal mortality, general mortality and morbidity have an important bearing upon the amount and types of hospital facilities needed in the locality. The reporting of births and deaths, es-

Birth Rate Per 1,000 Women Age 15-44, Illinois, 1940



Map V. BIRTH RATE PER 1000 WOMEN AGE 15-44, ILLINOIS, 1940. The birth rate in Illinois per 1000 women between the ages of 15-44 for the year 1940 was 63.5. From this map it is apparent that the birth rate is higher in the predominately rural areas. Many of the counties with high birth rates had disproportionately low percentages of births in hospitals. Subsequent maps show these counties of high birth rates as having limited hospital facilities. The knowledge of birth rates is important because the number of obstetric beds and bassinets needed in a hospital is directly related to the number and rate of births. The highest birth rate for the State was 107 births per 1000 women between the age of 15 and 44 in Calhoun County where accessible hospital facilities are grossly inadequate. With the exception of the metropolitan Chicago area which includes the counties of Cook and DuPage there was only one county, Logan, with a birth rate of less than 60.

Infant Mortality Rates, Illinois, 1942-1944, By Place of Residence



Map VI. INFANT MORTALITY RATES BY PLACE OF RESIDENCE, ILLINOIS, 1942-1944. This map shows a three-year average of infant deaths (under one year of age) by county of residence. Inasmuch as 50 per cent of all infant deaths occur during the first month of life the actual and possible influence of hospital care and teaching merits serious consideration. While the State average rate shows a steady decline from 72.5 infant deaths per 1000 live births in 1925 to a favorable 31.8 in 1945 there are many areas in the State which show rates of 2 to 3 times the State three-year average. In conjunction with this decrease in infant mortality there were corresponding decreases in maternal mortality and stillbirths over this same period of time. The number of maternal deaths per 1000 live births decreased from 5.6 in 1925 to 1.8 in 1945 and the number of stillbirths per 1000 live births decreased from 36.1 in 1925 to 21.9 in 1945. The most unfavorable areas with regard to infant mortality as can be seen from the above map are in the southern part of the State and in the northern rural communities.

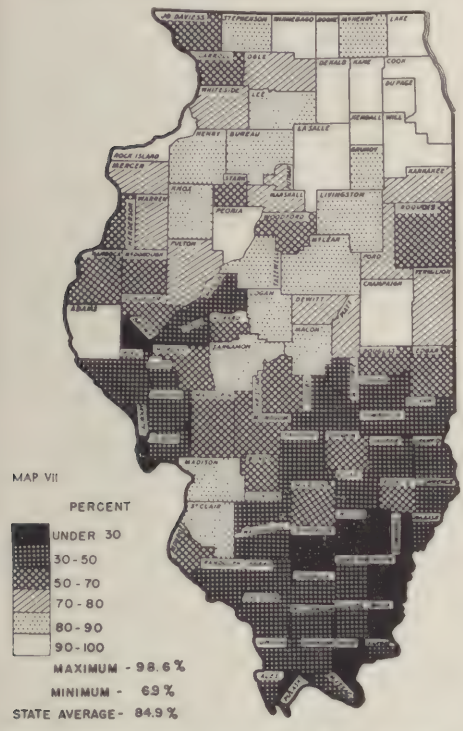
There is also a striking difference between these rates for white and non-white groups within the State and between the rural and urban groups. For example, the infant mortality rate for the urban areas of the State was 31.8 and within this group the distribution by rates was 31.0 white and 42.8 non-white. The rural rate was 37.2 with 36.6 for white population and 95.8 for the non-white. Comparable differences occur in the other two ratios. (For details see Appendix)

The greatest single cause of infant mortality is premature birth, which accounted for 29 per cent of infant deaths in 1944. The next three high causes were congenital malformations, 19 per cent; pneumonia (all forms), 12 per cent; and injury at birth, 14 per cent. With the exception of pneumonia which was less in the rural areas than in the urban, the other three causes of death were proportionately the same in urban as in rural areas. The infant mortality rate by place of residence for the three-year period ranged from a high of 94.4 deaths per 1000 live births in Pulaski County to a low of 11.9 in Kendall County.

pecially the requirement of listing place of occurrence of those events, has afforded a body of information of considerable significance in associating these experiences with the use of hospitals. Knowledge of the rates of all illnesses would be valuable in determining the needs for hospitals but, for individual illnesses, with the exceptions of reportable communicable diseases, (including tuberculosis) and obstetric care, these data are not available by geographic distribution of patient. The available figures on a State basis do, however, indicate the type of hospital facilities needed. For example, the decrease in morbidity due to communicable diseases results in a decreased need for isolation facilities. Accompanying the increase in the proportion of aged are increases in the number of deaths from cancer, heart disease, arterio-sclerosis, and other conditions associated with an ageing population. There is, therefore, a need for expansion of facilities for care of cases of these types.

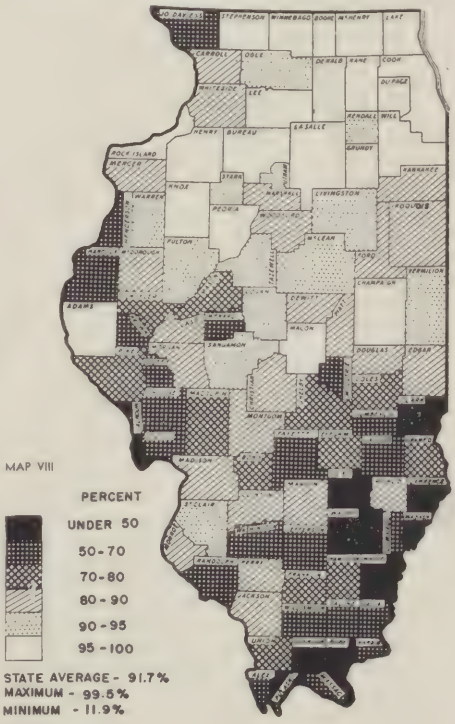
The incidence of morbidity and mortality due to occupational hazards in both agriculture and industry in various areas would also indicate to hospital

BIRTHS IN HOSPITALS, ILLINOIS, 1942



MAPS VII AND VIII. PERCENTAGE OF BIRTHS IN HOSPITALS BY COUNTY OF RESIDENCE, ILLINOIS, 1942 AND 1945. A comparison of these two maps reveals a favorable State average of 84.9 per cent in 1942 and 91.7 per cent in 1945. This indicates a definite increase in the use of hospitals for obstetric service during these years. This may be attributed in part to the effect of the Emergency Maternity and Infant Care Program and the rise in standard of living. In the two maps the per cent scale varies, but the general picture of fewer births in hospitals in southern Illinois and most rural areas along the Mississippi obtains in both years. By comparing these two maps with the preceding map of infant mortality one may conclude that the higher the per cent of births in hospitals, the lower infant mortality rate for a county. A significant reason for the low percentage of hospital births in certain areas of the State is that these areas have either no or insufficient hospital facilities. This is, however, not always the case since some counties having no hospitals at all have a fairly high percentage of their births occurring in the hospitals in adjacent counties. The percentage of births which occur in hospitals may be interpreted as an index of the attitude of the community toward the use of facilities. The percentage of hospital births in 1942 varies with regard to residence and race; it is higher in urban areas, and is higher for the white than for the non-white residents in both urban and rural communities. For the urban population the increase of hospital births has been from 80.5 per cent in 1937 to 93.2 per cent in 1942. For the rural population (rural includes cities up to 10,000 population) the increase has been from 38.2 per cent in 1937 to 68.2 per cent in 1942. The map on 1945 data shows that there are still many counties in which less than 50 per cent of the births occurred in hospitals. (Compare with other maps on distribution of physicians, economic and education status.)

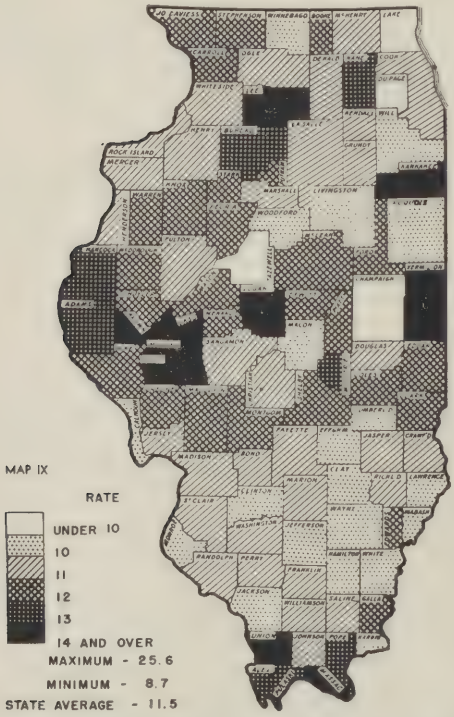
PERCENT BIRTHS IN HOSPITALS, ILLINOIS, 1945



planners the need for additional facilities.

Determination of the number of needed obstetric beds and bassinets in a locality follows quite readily from knowledge of the number and rate of births. On the basis of an 8 to 10 day hospital stay for obstetric cases one bed could theoretically provide for 36 deliveries per annum, on the basis of 100 per cent occupancy of that bed. Inasmuch as 75 per cent occupancy has proved to be the more practicable rate,[1] it follows that one maternity bed could safely provide for about 27 deliveries per annum. The number of needed beds can be ascertained by dividing the number of estimated births for the hospital community by 30 and applying a correction factor to adjust for communities in which socio-economic and educational conditions are such that less than 80 to 90 per cent of the deliveries might be expected to occur in hospitals.

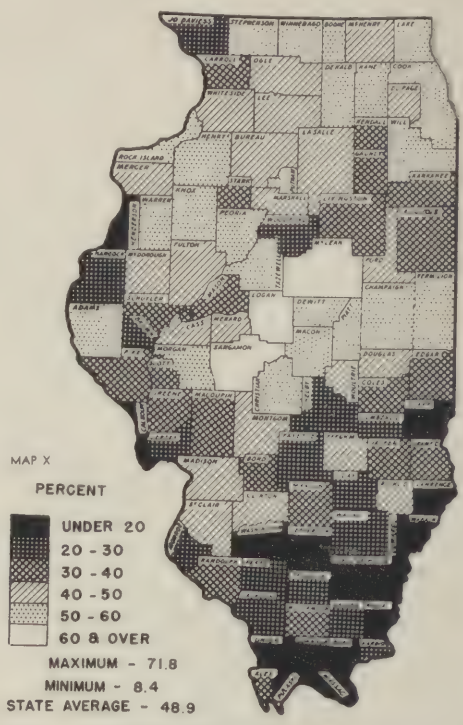
DEATHS PER 1,000 PEOPLE, ILLINOIS, 1942-1944, BY PLACE OF RESIDENCE



MAP IX DEATHS PER 1,000 PEOPLE BY PLACE OF RESIDENCE, ILLINOIS, 1942-44. The over-all death rates in Illinois vary with respect to race and residence in a pattern similar to infant death rates. Rates are higher in rural areas and among the non-white population.

The leading causes of death in Illinois are diseases of the heart, cancer and other malignant tumors, nephritis and intracranial lesions of vascular origin. An analysis of the age-specific death rates reveals a disproportionately high incidence in the older age groups. Comparison of this fact with the increasing percentage of the population in the over 65 years of age category should be considered in hospital planning. The death rates in Illinois for the years 1942-1945 varied from a low of 8.7 deaths per 1,000 population in DuPage to 25.6 in Union County. (The Union County rate is influenced by the inclusion of deaths occurring in Anna State Hospital.) The maximum death rate for counties which do not have large State hospitals or institutions is 14.4 (in Brown County).

DEATHS IN HOSPITALS, BY RESIDENCE, ILLINOIS, 1945



MAP X. DEATHS IN HOSPITALS, BY PLACE OF RESIDENCE, ILLINOIS, 1945. The number of deaths in hospitals, like the number of births in hospitals, may be interpreted as an index of the use of hospital facilities. It is not the intent in this connection to infer that hospitalization is associated with mortality or that hospitals are a good place to go to die, but, rather to demonstrate the extent of hospitalization for conditions which were of such serious nature that death resulted. The trend in use of hospitals for serious illness as reflected in the percentage of deaths in institutions by residence, 1937-1942 has been upward during the six year period for which figures are available.

Variation by county in percentage of deaths in hospitals is closely related to the distribution of facilities. Some counties, however, which contain no hospitals have availed themselves of facilities in adjacent counties. This is evidence of community interest in hospital care. The percentage of deaths which occurred in hospitals ranges from a low of 8.4 per cent in Clark County to 71.8 per cent in Sangamon County.

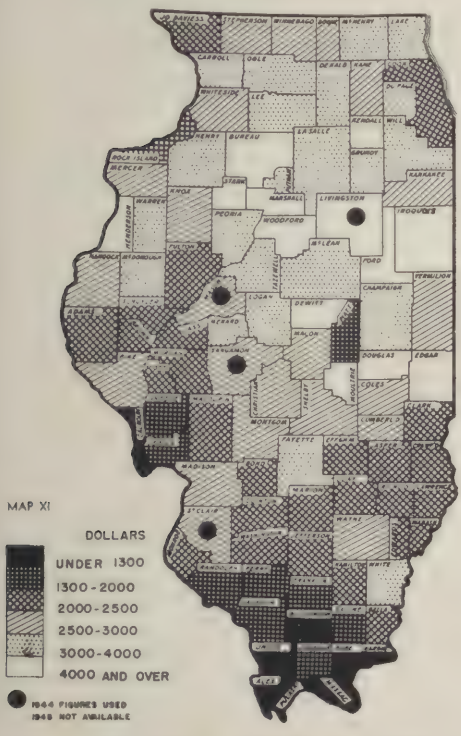
[1] Standard Plans for Nurseries for Newborn. In Hospitals of 50 to 200 Beds, Ethel C. Dunham, M.D., Marshall Shaffer, Neil F. MacDonald, *Hospitals*, April 1943.

C. ECONOMIC FACTORS

The planning of hospital facilities requires careful consideration of economic factors because hospitals, however altruistic their purpose, require more than good intentions to assure sound construction and continued maintenance. The ability of the people to support a hospital must be known; for under existing circumstances hospitals in Illinois may not reasonably expect large donations to cover the cost of initial building or substantial endowments to provide operational expenses. Hospitals for the most part must look to the people whom they serve for assurance of their continued ability to serve. It is not generally appreciated that while the cost of operation is somewhat variable depending on salary scales in the county, the efficiency of the physical plant, and the completeness of equipment, the minimum annual operating expenses are approximately 40 per cent of the initial construction cost.[1]

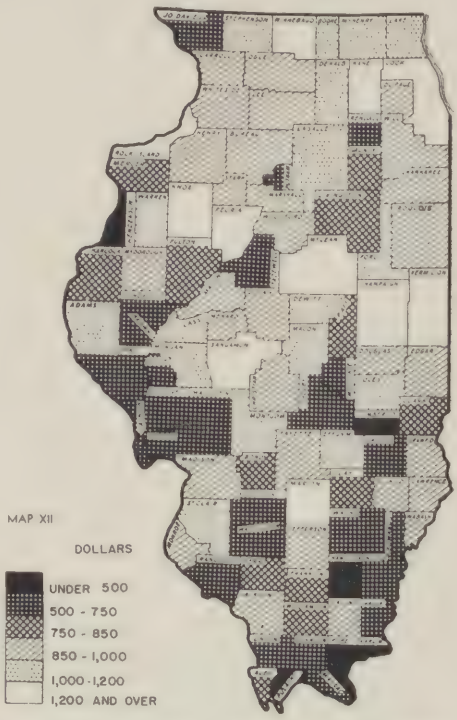
Since the provision of hospitals and allied facilities in relation to need is the intent of the Survey and Plan, there must be means of financing needed construction and maintenance regardless of whether the source of such funds be private philanthropy, direct taxation or existing public assistance programs. From the data herein presented, (and as later maps will demonstrate) it is

PER CAPITA ASSESSED VALUATION, ILLINOIS, 1945



MAP XI. PER CAPITA ASSESSED VALUATION, ILLINOIS, 1945. The average per capita assessed valuation for the State of Illinois in 1945 was $2,416.00. The per-capita assessed valuation varied from $651 in Pulaski County to $4,851 in Ford County. The per capita assessed valuation is believed to provide an index of the actual and relative ability of a community to afford construction costs of community projects. Thus the major unfavorable areas are in the southern portion of the State.

EFFECTIVE BUYING INCOME PER CAPITA, ILLINOIS, 1944

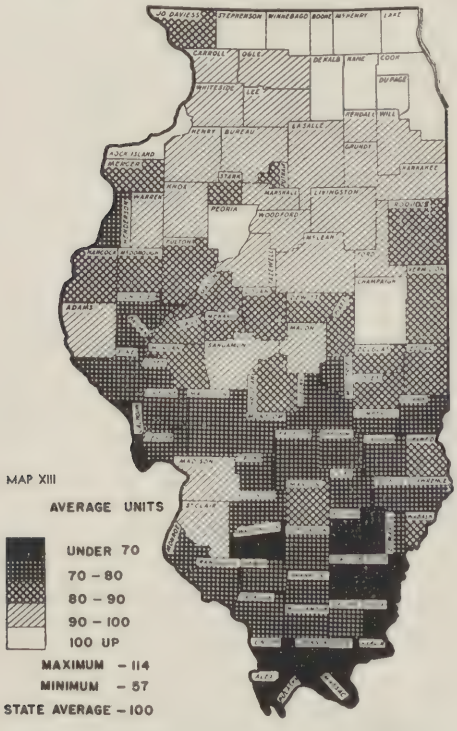


MAP XII. EFFECTIVE BUYING INCOME PER CAPITA, ILLINOIS, 1944. This reveals that there are six counties in Illinois wherein the average effective buying income per capita was less than $500 in 1944 and 27 counties wherein the average effective buying income per capita was over $1,000. These recent income data, however, reflect abnormal war-time conditions. The effective buying income per capita can be considered as the ability of the individual to purchase hospital care, and the per capita assessed valuation may be regarded as an index of funds that might be obtained through taxation for construction and support of a hospital. It is noteworthy that many of the counties of low buying income are contiguous and are in regions which also have low per capita assessed valuation.

[1] The Individual Hospital, The American Hospital Association, page 22, 1945.

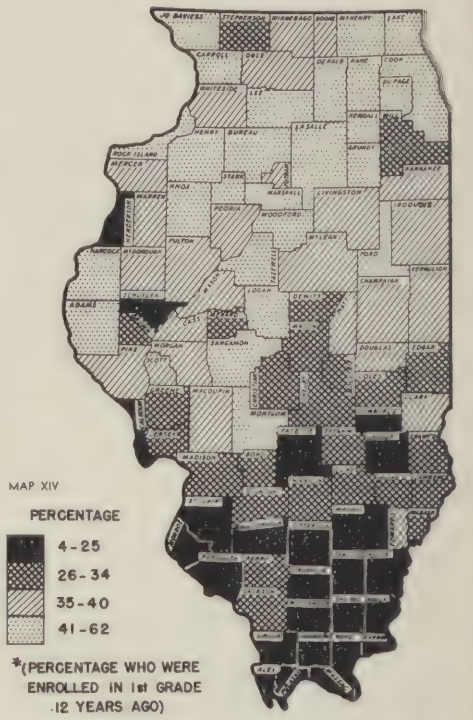
obvious that there are some communities in great need and that according to available records must to a large extent depend on outside support for ventures of this kind. Studies of the economic circumstances of these areas are important in that they provide relative appraisals and estimates of the amount of aid supplementary to local funds required for the support of hospitals.

AVERAGE STANDARD OF LIVING, ILLINOIS—1940



MAP XIII. AVERAGE STANDARD OF LIVING, ILLINOIS, 1940 was computed through an acceptable statistical handling of the ten following indices: homes with radios, homes with mechanical refrigeration, homes with electric lighting, homes with central heating, homes with running water, per cent homes occupied by owners, homes not needing major repairs, homes with less than 1.01 persons per room, per cent of persons 25 years of age or over that have completed six years of school, and the average value of the homes. For comparison of counties the average standard of living for the State of Illinois was taken as 100. On this basis there were only nine counties above the State average, two counties equal to the State average, and the remaining counties below the State average. This average standard of living varies from 57 in Hardin and Pope Counties to 114 in DuPage. The most unfavorable area is again the southern half of the State.

PERCENTAGE PUPILS* GRADUATING FROM HIGH SCHOOL, 1939



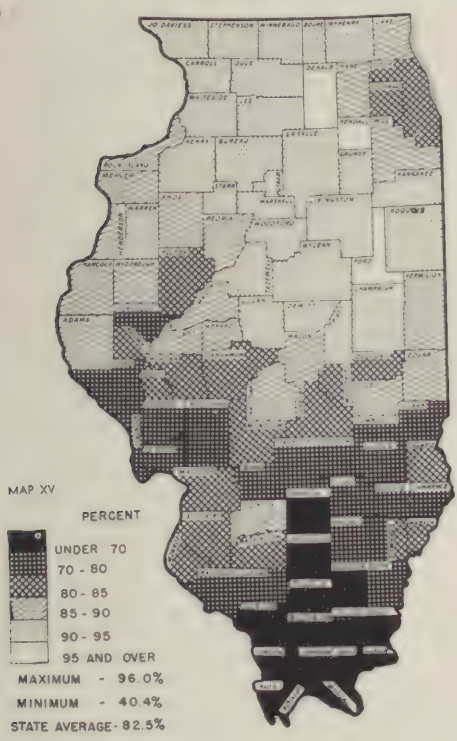
MAP XIV. PERCENTAGE PUPILS GRADUATING FROM HIGH SCHOOL, ILLINOIS, 1939. In one-fourth of the counties in the State less than 25 per cent of the pupils who had been in the first grade 12 years earlier graduated from high school in 1939. These counties were largely in the southern part. In the upper quartile the range was from 41 to 62 per cent of such pupils graduating from high school. These counties are in the west central and northern parts of the State, with the highest percentage (62) in DeKalb County. In ninety-six counties less than 50 per cent of the pupils who had been in the first grade 12 years before graduated from high school in 1939. The remaining six counties, which ranged from 50 per cent to 62 per cent were Lake, McHenry, Woodford, Kane, DuPage and DeKalb.

D. TRANSPORTATION AND COMMUNICATION FACILITIES

Transportation figures significantly in the ability of a hospital to serve a given area, to attract and hold staff and to satisfy patients and their visitors. To a large extent the size of a hospital area is governed by the condition of the roads leading to the hospital, the distribution of privately-owned automobiles and public ambulances. As any road map will show, the system of hard surfaced highways in Illinois forms a close network through which health services may conveniently be sought or disseminated. The only natural barriers to free movement of people in all areas of the State are the

Illinois, Mississippi and Ohio Rivers which from time to time disrupt normal transportation channels. Public transportation of all kinds (including growing airline service) is fairly equitably distributed throughout the State.

PERCENT FARMS WITH AUTOMOBILES, ILLINOIS, 1940

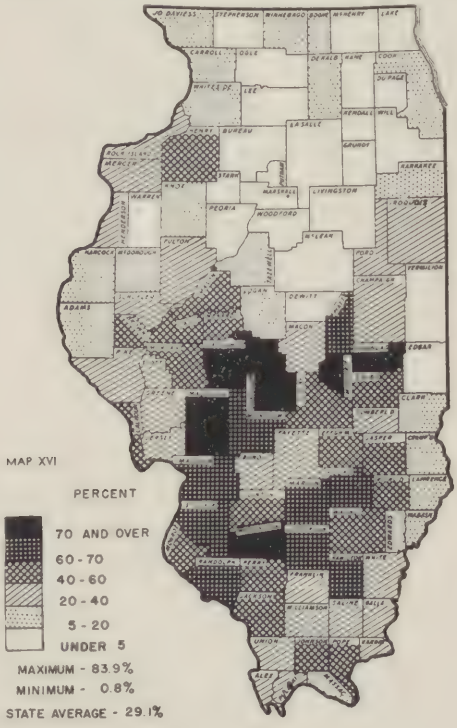


CONCLUSION

These studies on population, health indices and community wealth demonstrate what is generally well known: there are wide areas of our State which are not so favorably affected by the gains of our civilization. These areas, often blocks of contiguous counties, have standards of living below the average of the State; high illness, birth and death rates, low property evaluation; small per capita income; low educational level; and more than their share of the children and the aged. The same areas as later maps will show demonstrate a low physician-population ratio, a paucity of hospitals, nursing homes and county health departments. The hospitals which do exist in these areas are small, not well-equipped, and due to their low occupancy rates, expensive to operate. They are especially costly in relation to the incomplete service which obviously is all that they can provide.

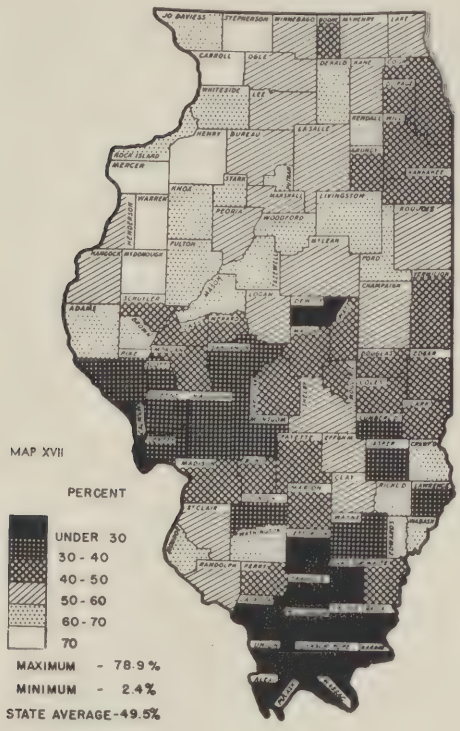
Such areas of inadequate facilities and lack of professional personnel have occasioned the concern of many State and National organizations and have figured strongly in the motivation of the 79th Congress to enact Public Law 725, the Hospital Survey and Construction Act.

PERCENT FARMS ON DIRT ROADS, ILLINOIS, 1940



From the comparison of *Map XV. Percent Farms with Automobiles 1940, Map XVI. Percent Farms on Dirt Roads 1940,* and *Map XVII Percent Farms with Telephones 1940*—one may note that in the southernmost counties less than 30 per cent of the farms have telephones and cannot call for physicians and for hospital service. For this same group of counties less than 70 per cent of the farms have automobiles. These same counties, however, have fairly good roads. From this one might gather that one way to serve this group would be to bring the hospital closer to the people by means of adequate ambulance service.

PERCENT FARMS WITH TELEPHONES, ILLINOIS, 1940



The intent of this legislation is to equalize health facilities in communities which are not naturally conducive to the optimum development and use of such facilities; the extent to which the objectives of this law will be realized depends upon the appreciation of the impact of undeniable social forces and the desire to obtain through local and regional cooperation services which are fundamental to modern health programs. The extent is further dependent upon the appropriation of funds for grants-in-aid to the needy areas.

SECTION II. HEALTH SERVICE PERSONNEL AND FACILITIES IN ILLINOIS

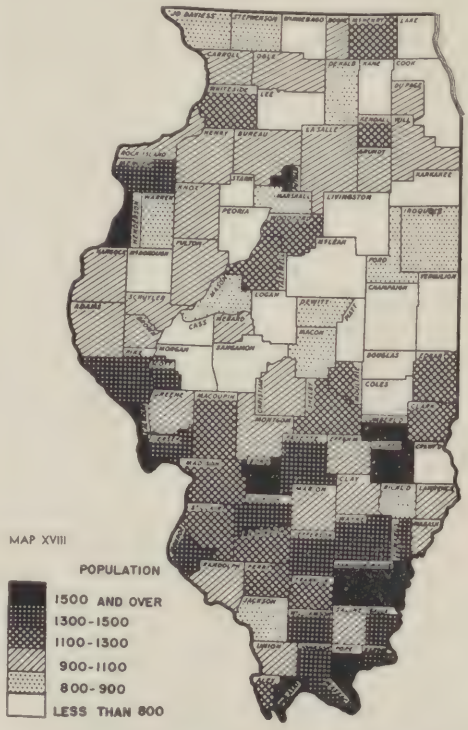
CHAPTER I. PROFESSIONAL PERSONNEL

While the intent of a plan for meeting the hospital needs of Illinois is to outline a course which will provide adequate facilities for all of the people of the State, it is obvious that mere buildings and equipment are valueless without sufficient trained personnel. Realistic planning must therefore take into consideration the availability of the professional and technical personnel essential for health services. The expert testimony on the Hospital Bill before it was enacted by the 79th Congress, the numerous studies of the United States Public Health Service, and the work of the Commission on Hospital Care are in agreement that the distribution and quality of medical care are closely related to the distribution and quality of hospital services. It became apparent that better planning in relation to hospitals could initiate a more equitable distribution of medical and allied care.

Just as the term adequate facilities, as used repeatedly in this study, is difficult to define and is subject to fluctuation, so also is a definition of sufficient trained personnel. Nationwide studies on the distribution of medical personnel made in the past decade indicate that one physician to every 1,500 general population is the minimum ratio consistent with reasonably adequate care. These studies indicate also that a population of 10,000 or more is necessary to provide sufficient clinical material to attract and support a specialist in any one of several of the more common specialty fields of medicine. To what extent a physician-population ratio of one to 1,500 would suffice to carry on extensive psychosomatic medicine and preventive medical practices remains to be determined.

The current Survey reveals that for the State of Illinois as a whole, a ratio of 721 people per active physician obtains. This ratio varies from a low of 3,322 people per active physician in some rural counties to 574 in Champaign County and 595 in Cook County. The high ratio in Cook County is understandable because of the location of the medical schools and research hospitals in that area. These ratios, while they appear rather favorable for the entire State, do

POPULATION PER ACTIVE PHYSICIAN, ILLINOIS, 1943



MAP XVIII. POPULATION PER ACTIVE PHYSICIAN, ILLINOIS, 1943. The distribution of physicians in Illinois by county for 1943 takes into consideration those in the armed forces and allocated them to their county of residence. Many of the counties, however, would have fewer physicians if those of 65 years of age and over were deleted from the calculations on the basis that only a small percentage of persons 65 years of age or over are capable of keeping up with the physical demands of active medical practice. Table 33, Appendix B shows the number of active and non-practicing physicians, age of active physicians, and the ratio of people per active physician. The table thus supplements this map in showing areas which need more physicians.

This map should be compared with the series of maps on distribution of hospital facilities.

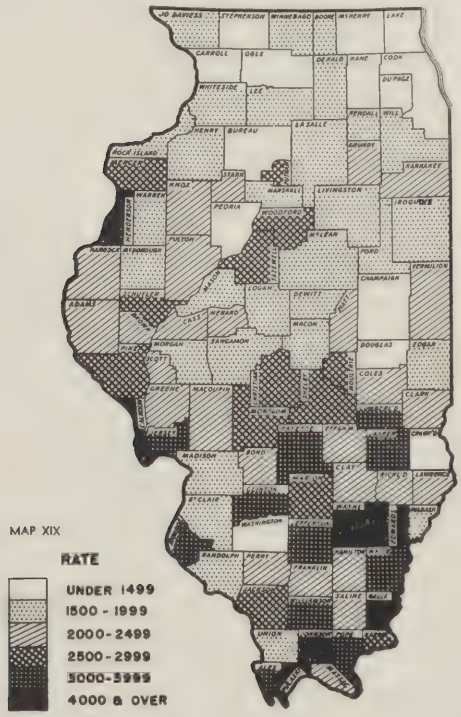
not take into consideration the age of physicians. More that 17 per cent of all active physicians in the State are 65 years of age and over. In most of the rural counties physicians in this age group make up a much larger proportion of the total physician group. The proportions of full-time and part-time specialists increase with the size of the community. There were in Illinois in 1943 only 39 full-time specialists in all of the areas of the State having less than 2,500 population. Since medicine as practiced today calls for a certain but variable amount of highly specialized services, the paucity of specialists in some areas is disturbing.

Discussion at the National Conference on Rural Health of the American Medical Association, February 1947, disclosed that physicians in rural practice have found that communities of small size are unattractive locations because cultural, educational and merchandising opportunities are not in accord with patterns which doctors establish during their professional training in large medical centers. In addition, it was brought out that people in the sparsely settled areas frequently by-pass the local community doctor to go to urban centers for their medical care except in emergencies created by accidents and illness during the night. A lack of hospitals, particularly adequate hospitals, was mentioned repeatedly.

"The scarcity of medical men in rural areas was given a great deal of consideration. With the changes which have occurred in rural life and organization, it will undoubtedly be impossible to have physicians in all the small villages which have had them in the past. There will be increased development of hospitals and health facilities in county seats and other larger towns so that those who live in the villages and rural areas will find it necessary to go to their trading centers to secure medical services. The physicians will locate where there are health centers, hospitals, and diagnostic centers. However, this does not mean less adequate nor less available care. It is now easier to drive twenty miles to a hospital, health center, or doctor than it was to travel five miles to the nearest village twenty years ago. Furthermore, when the patient does arrive, he has better medical service available than ever before. We do not want poor medical service made more available. Convenience is of secondary importance."[1]

The location of hospitals with regard to the ultimate objective of encouraging a redistribution of physicians has been the subject of study by hospital, medical, legislative and local community groups. Experience has shown that communities which do not have hospitals experience considerable difficulty in retaining physicians to serve such communities. The data in the Illinois Survey, as in other surveys, shows that the larger and more complete a hospital in a given community, the larger is the number of practicing physicians in that community.

TOTAL POPULATION PER DENTIST, ILLINOIS, 1942



MAP XIX TOTAL POPULATION PER DENTIST, ILLINOIS, 1942. The distribution of dentists follows very closely that of physicians; the more favorable ratios occur in those counties having the larger communities.

Data on the distribution of graduate registered nurses in Illinois by county was not available at the time of this study.

[1] National Conference on Rural Health. J. of Iowa State Medical Society 37:135, March, 1947.

There are notable instances in the United States wherein desirable hospital facilities have attracted a commendable group of physicians to the environs, and there are also noteworthy demonstrations of desirable level of medical practice in a community ultimately being instrumental in the provision of exceptionally fine hospitals. A. C. Bachmeyer, M.D., Director of the Commission on Hospital Care has described this hospital location physician distribution problem as a vicious circle which might with greatest expectancy of favorable outcome be broken through the wise placement of hospitals of significant size in communities of need.

On the guidance of the National Commission on Hospital Care, the American Hospital Association, the United States Public Health Service, and other groups experienced in the hospital field, this thesis of strategic location of hospitals has been developed and fairly widely disseminted through hospital and farm bulletins. Some have erroneously inferred from these documents that the authorities recommend small hospitals of six to ten or twenty beds at every crossroads in order to hold a physician in practice in such areas. But institutions of six to ten, twenty or even double that number of beds are not attractive to physicians who have had training in much larger institutions and under circumstances that have afforded ample opportunities for conferences in the medical and allied fields. The inference that the mere provision of beds will alter the trend of physicians away from rural areas seems a fantastically simple solution to a complex social situation. The population distribution and the topography of Illinois is such that, fortunately, there is no need to program hospitals of less than approximately fifty beds anywhere in the State.

That there is a need for physician service closer to the people than the community hospital located in a center of a maximum of twenty-five miles radius, is generally conceded. Inasmuch as some studies estimate that at least ninety per cent of a physician's general practice does not require either extensive hospital facilities or in-bed care, the need for provisions for office practice in both the community where the hospital is located and in the communities at the periphery of the hospital area is obvious. State agencies administering the Federal Hospital Survey and Construction Act may not use public funds for the erection of facilities for office practice except in such instances wherein the office facilities are located in the hospital building. In view of this limitation on the expenditure of federal grant-in-aid funds, some local communities may wish to provide for physicians' offices in the hospital unit; others may consider the construction of locally financed medical arts buildings.

CHAPTER II. HOSPITALS

Facilities for in-patient care in Illinois at the time of the Survey totaled 682 institutions which had a total bed capacity of 80,625. These institutions, according to data submitted, were built to accommodate 67,260 persons. As is generally appreciated, almost all hospitals have been crowded for several years past. Table III illustrates the normal and complement bed capacity of all Illinois hospitals according to type of service provided. These data show that the total group of institutions had 13,365 patients in excess of the capacity for which the institutions were built. The great overcrowding in the nervous and mental hospitals, as is now quite generally known, has been accomplished by packing smaller than average size beds into all available space and supplementing this arrangement with mattresses on the floor. In the general hospitals the apparent overcrowding is the result of conversion of many private rooms to semi-private, and sun parlors and other utilizable space into patient accomodations.

TABLE III. TYPES OF INSTITUTIONS AND BED CAPACITY

Type	INSTITUTIONS		BEDS*			
	Number	Per Cent of Total	Number		Per Cent of Total	
			Normal	Complement	Normal	Complement
All Institutions (Total)	682	100.0	67,260	80,625	100.0	100.0
General Hospitals	228	33.4	27,451	28,447	40.8	35.3
Allied Special Hospitals	37	5.4	2,721	2,590	4.0	3.2
Nervous and Mental Hospitals	25	3.7	21,911	34,414	32.6	42.7
Tuberculosis Hospitals	30	4.4	3,656	3,661	5.4	4.5
Chronic and Convalescent Institutions†	362	53.1	11,521	11,513	17.1	14.3

*"Normal" is used to denote the number of beds for which the various institutions were built or the number of beds which normally should be in use on the basis of 75 sq. ft. floor area in the nursing unit per adult bed. The term "complement" is used to denote the number of beds which were actually set up and in use at the time the survey was made.

†These institutions are, for the most part, nursing homes.

The extent to which hospitals of one type provide facilities for patients of another type is shown to some extent in Table IV. Ninety-eight per cent of the beds for neuro-mental cases are in the special nervous and mental hospitals, and that less than 2 per cent of the available beds for care of this large public health problem are available in community general hospitals. The tuberculosis hospitals per se contain only 53 per cent of the tuberculosis beds, while 33 per cent of the available tuberculosis beds are in the specialized nervous and mental institutions.

TABLE IV. BEDS AVAILABLE FOR CERTAIN TYPES OF PATIENTS IN INSTITUTIONS OF 25 BEDS OR MORE BY TYPE OF INSTITUTION, ILLINOIS—1945

Type of Institution	TYPE OF PATIENT					
	Nervous and Mental		Tuberculosis		Chronic and Convalescent	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
General Hospitals	549	1.7	357	5.2	168	2.1
Allied Special					51	0.6
Nervous and Mental	32,059	98.3	2,265	33.1	35	0.4
Tuberculosis			3,651	53.3		
Chronic and Convalescent*	8	0.0	574	8.4	7,850	96.9
Total Beds	32,616	100.0	6,847	100.0	8,104	100.0

*For the most part, Nursing Homes.

GENERAL AND ALLIED SPECIAL HOSPITALS

In Illinois, at the time of the Survey, there were 228 general hospitals which had a total bed capacity of 28,447. Of these hospitals 161 or 71 per cent were operated by non-profit associations and contained 78 per cent of the total general hospital beds. About 19 per cent of the hospitals, containing only 4.5 per cent of the total beds, were owned and managed by either individuals, partnerships or corporations on a proprietary basis. The proprietary hospitals are therefore large in number but small in capacity. The variation between the percentage of hospitals under government control and the percentage of beds in these hospitals is due to the large size of Cook County Hospital in Chicago.

TABLE V. GENERAL HOSPITALS AND BEDS BY CONTROL, ILLINOIS—1945

Control	HOSPITALS		BEDS			
	Number	Per Cent of Total	Number		Per Cent of Total	
			Normal	Complement	Normal	Complement
All Hospitals (Total)	223	100.0	27,451	28,447	100.0	100.0
Non-profit	161	70.6	21,201	22,094	77.2	77.7
Proprietary	44	19.3	1,238	1,268	4.5	4.5
Governmental	23	10.1	5,012	5,085	18.3	17.9

About two -thirds of the general hospitals in Illinois have a capacity of 50 or more beds. Eighty-three hospitals, 36.4 per cent, are in the favorable size range 100-249. These hospitals contain 42.6 per cent of the total number of general hospital beds. The eighty-one hospitals (35 per cent of the total group) which have less than 50 beds contain only 7.2 per cent of the total beds. The map studies on geographical distribution of general hospitals by type of ownership and completeness of service and the health indices in the areas served by these small hospitals contained in this Survey illustrate the significance of the small facility in the overall health picture.

TABLE VI. GENERAL HOSPITALS AND BEDS BY SIZE OF INSTITUTION, ILLINOIS—1945

Size of Institution (Beds)	HOSPITALS		BEDS			
	Number	Per Cent of Total	Number		Per Cent of Total	
			Normal	Complement	Normal	Complement
All Hospitals (Total)	228	100.0	27,451	28,447	100.0	100.0
Under 25	42	18.4	681	690	2.5	2.4
25-49	39	17.1	1,305	1,361	4.8	4.8
50-99	42	18.4	2,831	2,994	10.3	10.5
100-249	83	36.4	11,489	12,108	41.9	42.6
250-499	16	7.0	5,046	5,195	18.4	18.3
Over 500	6	2.6	6,099	6,099	22.2	21.4

The fact that the proprietary hospitals in the State are small is shown by the figure of 29 beds as the average capacity of institutions in this group. The non-profit association hospitals average 137 beds, and, largely because of Cook County Hospital, the government owned hospitals average 221 beds. The average size of all general hospitals in the State is 125 beds.

TABLE VII. BED COMPLEMENT IN GENERAL HOSPITALS BY CONTROL, ILLINOIS—1945

Control	BED COMPLEMENT BY SIZE (BEDS)							
	Total	Under 25	25-49	50-99	100-249	250-499	Over 499	Average*
Non-profit	22,094	152	873	2,232	11,307	4,706	2,824	137
Church	12,324	23	220	1,211	6,294	3,441	1,135	158
Association	9,770	129	653	1,021	5,013	1,265	1,689	118
Proprietary	1,268	510	180	352	226			29
Individual or Partnership	674	474	140	60				20
Corporation	594	36	40	292	226			59
Government	5,085	28	308	410	575	489	3,275	221
City or County	4,462	28	308	410	441		3,275	212
State	623				134	489		312
All Types of Control	28,447	690	1,361	2,994	12,108	5,195	6,099	125

*Number of beds divided by number of hospitals.

Study of the table which shows beds allocated to specific services in general hospitals reveals that proprietary hospitals, because of their small size, cannot afford to designate beds for specific services as extensively as can the larger hospitals. An analysis of the distribution of beds by services in the non-profit group reveals that these institutions do provide to a certain limited extent definite facilities for the commonly specified services, but the information from the individual schedules shows that this spread of services was occasioned by the larger teaching hospitals in the group under non-profit management. The fact that all groups had beds allocated specifically for obstetric service is the effect of the Illinois Maternity Hospital Licensing Law which requires that obstetric beds be segregated and be restricted in their use.

TABLE VIII. NORMAL BED CAPACITY ALLOTTED TO SPECIFIC SERVICES IN GENERAL HOSPITALS OF 25 BEDS OR MORE BY CONTROL, ILLINOIS—1945

	All Types		BEDS BY TYPE OF CONTROL					
			Nonprofit		Proprietary		Governmental	
	No.	%	No.	%	No.	%	No.	%
All Services (Total)	27,757	100.0	21,942	100.0	758	100.0	5,057	100.0
General Medicine	3,056	11.0	2,184	10.0	30	4.0	842	16.7
General Surgery	3,688	13.3	2,870	13.1	84	11.1	734	14.5
Obstetrics	4,714	17.0	4,057	18.5	153	20.2	504	10.0
Pediatrics	2,287	8.2	1,756	8.0	23	3.0	508	10.0
Contagious	300	1.1	166	0.8			134	2.6
Tuberculosis	357	1.3	17	0.1			340	6.7
Nervous and Mental	549	2.0	113	0.5			436	8.6
Chronic and Convalescent	168	0.6	168	0.8				
Venereal Disease	10						10	0.2
Orthopedic	579	2.1	369	1.7			210	4.2
Eye, Ear Nose, and Throat	228	0.8	77	0.4			151	3.0
Skin and Cancer	68	0.2	18	0.1			50	1.0
Unassigned	11,753	42.3	10,147	46.2	468	61.7	1,138	22.5

Table IX is a further illustration of bed allocation according to type of service. The data show that hospitals of less than 100 beds, particularly the group 25-49 beds, do not provide organized facilities for the care of patients in special clinical categories other than obstetrics. Such departmentalization or segregation in the small hospital would be incompatible with economical operation because of the lack of flexibility of the total institution and the expected low percentage occupancy under such arrangements.

TABLE IX. BEDS ALLOTTED TO SPECIFIC SERVICES IN GENERAL HOSPITALS (25 BEDS OR MORE) BY SIZE, ILLINOIS—1945

Service	Total No.	BEDS ALLOTTED BY SIZE OF HOSPITAL									
		25 to 49 Beds		50 to 99 Beds		100 to 249 Beds		250 to 499 Beds		Over 499 Beds	
		No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
All Services (Total)	27,757	1,361	100.0	2,994	100.0	12,108	100.0	5,195	100.0	6,099	100.0
General Medicine	3,056			208	6.9	1,200	9.9	456	8.8	1,192	19.5
General Surgery	3,688	19	1.4	162	5.4	1,668	13.8	635	12.2	1,204	19.7
Obstetrics	4,714	371	27.3	561	18.7	2,386	19.7	762	14.7	634	10.4
Pediatrics	2,287	5	0.4	52	1.7	886	7.3	488	9.4	856	14.0
Contagious	300			16	0.5	39	0.3	32	0.6	213	3.5
Tuberculosis	357									357	5.9
Nervous and Mental	549							180	3.5	369	6.1
Chronic and Convalescent	168					79	0.7	75	1.4	14	0.2
Venereal Disease	10									10	0.2
Orthopedics	579					105	0.9	243	4.7	231	3.8
Eye, Ear, Nose and Throat	228					32	0.3	62	1.2	134	2.2
Skin and Cancer	68					18	0.1			50	0.8
Unassigned	11,753	966	71.0	1,995	66.6	5,695	47.0	2,262	43.5	835	13.7

On the basis of the data submitted it appears that there is one hospital admission during a year for every ten people in Illinois (Table X). Conversely, disregarding re-admissions, one out of every ten persons will be admitted to a general hospital during the year. In all probability, such admission will be to a non-profit general hospital because 83.5 per cent of all admissions to general hospitals were to institutions in the non-profit category. This group of hospitals, then, provides the bulk of general hospital services in our State. Table X is an indication of the amount of care provided by general hospitals by classification of control.

TABLE X. SELECTED STATISTICS FOR GENERAL HOSPITALS BY CONTROL (ONE YEAR'S EXPERIENCE)—1945

Control	AVERAGE							
	Admissions		Daily Census		Births		Deaths	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Non-profit	611,089	83.5	16,780	79.6	103,711	86.4	22,665	71.0
Proprietary	31,050	4.2	783	3.7	5,713	4.8	1,138	3.6
Governmental	89,438	12.2	3,517	16.7	10,633	8.9	8,123	25.4
Total	731,577	100.0	21,080	100.0	120,057	100.0	31,926	100.0

The following table shows that one-half of all admissions were to hospitals of 100-249 beds. Comparison with preceding tables reveals that this group of hospitals comprises 36 per cent of the total number of general hospitals and contains 42.6 per cent of the bed complement of the total group. They are obviously being quite extensively used for general hospital care. The hospitals of fewer than 100 beds, which comprise 54 per cent of the entire number of general hospitals and 18 per cent of the bed complement, cared for 16.3 per cent of all admissions. The hospitals of 250 beds and over, which are 9.6 per cent of the total number of hospitals and contain 39.7 per cent of the total beds, admitted 33.4 per cent of the cases. The percentage distribution of average daily census by size of hospital has a direct relationship to percentage occupancy shown in Table II in Section I.

The percentages of total hospital births which occurred in the smaller hospitals are in all instances larger than the percentages of total hospital admissions in the respective categories. (Table XI). This is also borne out by the high percentage of beds allotted to obstetrics in small hospitals. (Table IX).

The percentage of deaths in the hospitals of less than 100 bed capacity is fairly closely related to the percentage of admissions. The hospitals in the category 100-299 beds have half the total admissions, half the total births, but less than half the total deaths. The higher percentage of deaths than admissions in the hospitals of over 500 beds is probably due to the fact that cases of more serious nature are cared for in larger institutions.

TABLE XI. SELECTED CHARACTERISTICS FOR GENERAL HOSPITALS BY SIZE, ILLINOIS—1945

SIZE (Beds)	AVERAGE							
	Admissions		Daily Census		Births		Deaths	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Under 25	15,915	2.2	392	1.9	3,681	3.1	524	1.6
25-49	31,997	4.4	858	4.1	7,501	6.2	1,421	4.5
50-99	70,819	9.7	1,989	9.4	12,508	10.4	3,166	9.9
100-249	368,075	50.3	9,247	43.9	62,322	51.9	13,531	42.4
250-499	123,934	16.9	3,985	18.9	20,436	17.0	4,377	13.7
Over 500	120,837	16.5	4,610	21.9	13,609	11.3	8,907	27.9
Total	731,577	100.0	21,081	100.0	120,057	100.0	31,926	100.0

Of the 731,577 admissions to general hospitals there occurred 31,926 deaths—a ratio of 4.4 deaths for each 100 admissions. For both the non-profit and proprietary groups this ratio or percentage was 3.7, while the government controlled hospitals had a rate of 9.1. (Table XII).

TABLE XII. DEATHS IN GENERAL HOSPITALS BY CONTROL, ILLINOIS—1945

Control	DEATHS		
	Number of Admissions	Number	Rate per 100 Admissions
Non-profit	611,089	22,665	3.7
Proprietary	31,050	1,138	3.7
Governmental	89,438	8,123	9.1
Total	731,577	31,926	4.4

There are notable differences in the death rates in hospitals of various size and control. (Table XIII). The most marked difference lies between government and non-profit hospitals of 500 or more beds. In the non-general hospitals the death rates in the government controlled institutions are disproportionately high. These institutions care for the bulk of patients in the neuro-mental and tuberculosis categories and the data are further weighted by the figures from Cook County Hospital which of necessity admits many cases that are recognized to be poor risks.

Since Tables XIV and XV are based on the same group of schedules it is possible to make comparisons between them. Although there was incomplete

TABLE XIII. DEATH RATE IN HOSPITALS BY CONTROL, TYPE AND SIZE, ILLINOIS—1945

Type and Size	ALL HOSPITALS			NON-PROFIT			PROPRIETARY			GOVERNMENTAL		
	Number of Admissions	Deaths		Number of Admissions	Deaths		Number of Admissions	Deaths		Number of Admissions	Deaths	
		No.	Rate /100 Adm.		No.	Rate /100 Adm.		No.	Rate /100 Adm.		No.	Rate /100 Adm.
All Hospitals (Total)	782,890	37,998	4.9	627,217	23,660	3.8	39,016	2,026	5.2	116,657	12,312	10.6
General	731,577	31,926	4.4	611,089	22,665	3.7	31,050	1,138	3.7	89,438	8,123	9.1
Under 25 Beds	15,915	524	3.3	3,515	140	4.0	11,004	342	3.1	1,396	42	3.0
25 to 49 Beds	31,997	1,421	4.4	20,530	892	4.3	3,838	115	3.0	7,629	414	5.4
50 to 99 Beds	70,819	3,166	4.5	57,130	2,327	4.1	7,909	374	4.7	5,780	465	8.0
100 to 249 Beds	368,075	13,531	3.7	344,141	12,749	3.7	8,299	307	3.7	15,635	475	3.0
250 to 499 Beds	123,934	4,377	3.5	118,294	4,199	3.5				5,640	178	3.2
Over 499 Beds	120,837	8,907	7.4	67,479	2,358	3.5				53,358	6,549	12.3
Allied Special	26,929	373	1.4	10,378	225	2.2	2,787	5	0.2	13,764	143	1.0
Nervous & Mental	12,878	3,272	25.4	721	44	6.1	1,980	74	3.7	10,177	3,154	31.0
Tuberculosis	3,867	899	23.2	830	111	13.4	272	42	15.4	2,765	746	27.0
Chronic and Convalescent	7,639	1,528	20.0	4,199	615	14.6	2,927	767	26.2	513	146	28.5

TABLE XIV. DISCHARGES FROM GENERAL HOSPITALS OF 25 BEDS OR MORE BY TYPE OF SERVICE, AND CONTROL, ILLINOIS—1945

Service	IN-PATIENTS DISCHARGED BY TYPE OF CONTROL							
	All Types		Non-Profit		Proprietary		Governmental	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total
General Medicine	143,395	27.1	119,188	27.2	1,489	24.2	22,718	26.4
General Surgery	181,392	34.2	158,557	36.2	2,788	45.4	20,047	23.3
Obstetrics	92,519	17.5	79,411	18.2	950	15.5	12,158	14.1
Pediatrics	65,408	12.3	55,773	12.8	80	1.3	9,555	11.1
Orthopedics	13,766	2.6	12,985	3.0	45	0.7	736	0.9
Nervous and Mental	8,725	1.6	1,723	0.4			7,002	8.1
Tuberculosis	1,860	0.4	1,014	0.2			846	1.0
Contagious	3,675	0.7	489	0.1	9	0.1	3,177	3.7
Chronic and Convalescent	1,609	0.3	1,594	0.4			15	
Other	17,342	3.3	6,680	1.5	786	12.8	9,876	11.5
All Services (Total)	529,691	100.0	437,414	100.0	6,147	100.0	86,130	100.0

TABLE XV. DAYS OF CARE IN GENERAL HOSPITALS OF 25 BEDS OR MORE BY TYPE OF SERVICE AND CONTROL, ILLINOIS—1945

Service	DAYS OF IN-PATIENT CARE BY TYPE OF CONTROL							
	All Types		Non-Profit		Proprietary		Governmental	
	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total
General Medicine	1,797,460	33.0	1,401,680	32.1	11,530	26.4	384,250	37.3
General Surgery	1,550,490	28.5	1,433,480	32.8	18,170	41.6	98,840	9.6
Obstetrics	831,730	15.3	700,310	16.0	9,300	21.3	122,120	11.9
Pediatrics	554,290	10.2	432,670	9.9	420	1.0	121,200	11.8
Orthopedics	277,570	5.1	252,800	5.8	560	1.3	24,210	2.4
Nervous and Mental	124,580	2.3	48,060	1.1			76,520	7.4
Tuberculosis	77,760	1.4	14,020	0.3			63,740	6.2
Contagious	45,470	0.8	4,870	0.1	10		40,590	3.9
Chronic and Convalescent	45,320	0.8	39,830	0.9			5,490	0.5
Other	136,890	2.5	40,310	0.9	3,710	8.5	92,870	9.0
All Services (Total)	5,441,560	100.0	4,368,030	100.0	43,700	100.0	1,029,830	100.0

and inaccurate reporting on the number of patients discharged and the length of their stay by type of service provided, the data are sufficiently inclusive and reliable to furnish some conception of the use of hospital facilities. The average length of stay for all types of care in all general hospitals was 10.3 days. General medical cases showed an average stay of 12.5 days while general surgical cases stayed only 8.5 days. The average length of stay for obstetric cases was 8.9 days. There is a striking difference between the types of hospitals and the classification of service which they have provided. In the proprietary hospitals 45.4 per cent of all discharges were surgical cases, which is considerably higher than the comparable percentage of discharges in government and non-profit hospitals.

There were 35,193 full-time paid employees working in Illinois hospitals, of which 34,711 were employed in hospitals of over 25 beds. (Table XVI). The percentage of administrative dietary, house and property personnel decreased as the size of the hospital increased. The number of professional personnel increased as the size of the institution increased. Percentage of out-patient personnel, as is to be expected from the fact that the large out-patient clinics are located in large hospitals, increased with the size of the hospitals.

The total personnel working in Illinois hospitals during 1945 was about 57,000, of which 82 per cent were full-time employees, 8 per cent part-time, and 10 per cent volunteers. (Table XVII). The general and allied special hospitals had the largest percentage of volunteers, un-

TABLE XVI. FULL-TIME PERSONNEL IN GENERAL HOSPITALS OF 25 BEDS OR MORE BY SIZE AND DEPARTMENTS, ILLINOIS—1945

Size (Beds)	Total	Administrative	Dietary	House and Property	Professional	Out Patient
NUMBER						
25-49	1,035	113	136	199	586	1
50-99	2,626	229	311	474	1,601	11
100-249	17,106	1,044	1,578	2,822	11,573	89
250-499	6,758	325	549	1,257	4,509	118
500 and Over	7,186	363	590	1,288	4,603	342
Total	34,711	2,074	3,164	6,040	22,872	561
PER CENT OF TOTAL						
25-49	100	10.9	13.1	19.2	56.6	0.1
50-99	100	8.7	11.8	18.1	61.0	0.4
100-249	100	6.1	9.2	16.5	67.7	0.5
250-499	100	4.8	8.1	18.6	66.7	1.7
500 and Over	100	5.1	8.2	17.9	64.1	4.8
All sizes	100	6.0	9.1	17.4	65.9	1.6

TABLE XVII. CLASSIFICATION OF PERSONNEL BY TYPE OF HOSPITAL, ILLINOIS—1945

Type of Hospital	Total	CLASSIFICATION					
		Full-Time		Part-Time		Volunteer	
		Number	Per Cent of Total	Number	Per Cent of Total	Number	Per Cent of Total
General	43,518	35,193	80.9	3,561	8.2	4,764	10.9
Allied Special	2,170	1,586	73.1	305	14.1	279	12.9
Nervous and Mental	5,709	5,185	90.8	124	2.2	400	7.0
Tuberculosis	2,116	1,893	89.5	198	9.4	25	1.2
Chronic and Convalescent	3,395	2,870	84.5	428	12.6	97	2.9
All Hospitals	56,908	46,727	82.1	4,616	8.1	5,565	9.8

doubtedly due to the fact that these two groups include most of the voluntary non-profit hospitals which had active campaigns for recruitment of volunteers during the war period. The tuberculosis and nervous and mental hospitals, which are for the most part government controlled, had the highest percentage of full-time personnel.

Reporting on the financial section of the hospital schedule of information used in the Survey was not as complete or reliable as reporting on other sections of the questionnaire. Data on expenses were for the most part on file in the Health Department offices inasmuch as this fiscal information had been submitted in accordance with the Government Reimbursable Cost formula in order to enable the hospitals to participate in the Emergency Maternity and Infant Care Program. Of the hospitals reporting income and expenses, the average income per patient day was $8.75 and the per diem expense was $8.19 (Table XVIII). The differences between income and expenses for each type of hospital are as follows: $0.62 for non-profit hospitals, $0.52 for proprietary hospitals and $0.33 for government controlled hospitals.

TABLE XVIII. INCOME AND EXPENSES REPORTED BY GENERAL HOSPITALS, BY CONTROL, ILLINOIS—1945

Control	Patient Days*	INCOME		EXPENSES	
		Total	Per Day	Total	Per Day
Non-profit	5,383,558	$50,181,000	$9.32	$46,842,000	$8.70
Proprietary	172,216	1,484,000	8.62	1,395,000	8.10
Governmental	1,249,949	7,900,000	6.32	7,486,000	5.99
All Types	6,805,723	$59,565,000	8.75	$55,723,000	8.19

*Patient days in hospitals which did not report income and expenses were as follows: non-profit—729,089; proprietary—113,457; governmental—33,782; total—876,328.

Table XIX shows the per diem cost and the number of patient days of service rendered by each type of hospital. General hospitals had the highest per diem cost, and nervous and mental hospitals had the lowest cost which was only $1.25 per patient day. This per diem cost for care in nervous and mental hospitals is markedly affected by the fact that many of the patients in the large State institutions require only custodial care and are able to participate in the economy of the dietary and other departments. The high cost of allied special hospitals is probably due to the inclusion of contagious disease hospitals, where per diem rates soar to a high of about $25.00 because of low occupancy rates.

TABLE XIX. COST PER PATIENT DAY IN HOSPITALS BY TYPE, ILLINOIS—1945

Type	Patient Days of Hospitals Reporting Expenses	EXPENSES	
		Total	Per Day
General	6,805,723	$55,723,000	$8.19
Allied Special	297,494	2,258,000	7.59
Nervous and Mental	11,886,409	14,900,000	1.25
Tuberculosis	842,757	4,409,000	5.23
Chronic and Convalescent	1,793,799	3,240,000	1.81
All Types (Total)	21,626,182	$80,530,000	$3.72

The per diem income and expenses vary with the size of hospitals (Table XX). From this table and the one following it is obvious that as the size of the hospital increases so does the average per diem cost of operation. Preceding and subsequent data show that a higher cost is justified by the inclusion of additional types of services in the larger institutions.

TABLE XX. INCOME AND EXPENSES REPORTED BY GENERAL HOSPITALS BY SIZE OF HOSPITAL, ILLINOIS—1945

Size (Beds)	Patient Days	INCOME		EXPENSES	
		Total	Average per Patient Day	Total	Average per Patient Day
Under 25	64,213	$ 402,000	$6.26	$ 346,000	$5.39
25-49	256,790	1,847,000	7.19	1,771,000	6.90
50-99	608,765	4,711,000	7.74	4,435,000	7.29
100-249	2,908,655	25,958,000	8.92	23,461,000	8.07
250-499	1,284,569	11,749,000	9.15	11,349,000	8.83
Over 499	1,682,731	14,898,000	8.85	14,361,000	8.53
All Sizes	6,805,723	59,565,000	8.75	55,723,000	8.19

TABLE XXI. PERCENTAGE DISTRIBUTION OF OPERATING COST BY SIZE OF HOSPITAL, ILLINOIS—1945

Cost Items	SIZE OF HOSPITAL					Grand Total
	Less than 50	50-99	100-249	250-499	Over 500	
Per Diem Cost	$ 6.96	$7.51	$ 8.07	$ 7.68	$ 9.47	
1. Administration	13.9	12.9	11.0	8.1	10.5	10.8
2. Dietary	19.5	19.2	19.9	20.5	19.7	19.9
3. Laundry	4.3	4.4	4.0	3.9	3.4	3.9
4. Housekeeping	6.7	6.5	7.3	10.1	8.2	7.8
5. Heat, light, etc.	5.7	5.7	5.8	7.5	4.9	5.9
6. Main. and Repairs	4.7	5.4	5.3	5.8	5.7	5.4
7. Motor service	0.4	0.1	0.1	0.1	0.1	0.1
8. Med. and Surg. serv.	12.2	9.6	12.6	12.1	11.8	12.1
9. Nursing-serv. and ed.	21.4	22.1	18.5	12.8	19.4	18.2
10. Med. rec. and lib.	0.3	0.5	1.0	0.6	0.7	0.8
11. Social service	0.1	0.1	0.4	0.1	1.1	0.4
12. X-ray	3.0	4.0	4.5	5.0	3.3	4.3
13. Laboratories	1.5	2.5	3.5	4.6	3.8	3.6
14. Pharmacy	4.1	5.4	4.7	7.0	3.9	5.0
15. Physical therapy	----------	0.2	0.5	0.3	0.5	0.4
16. Other	2.1	1.2	0.9	1.3	3.1	1.4
17. Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of hospitals reporting	51	40	81	12	5	

An attempt to show the services included in the per diem cost by size of hospital is shown in Table XXI. The material presented in this table was not taken from Survey Schedules but from "Hospital Statements of Reimbursable

Costs'' as submitted to the Illinois Department of Public Health, to obtain payment for obstetric and pediatric care under the Emergency Maternity and Infant Care Program.

An analysis of information on maternity service facilities and personnel bears out the opinion of hospital authorities that large hospitals, for the most part, provide more adequate facilities and service than small hospitals. The criteria by which an adequate and satisfactory maternity service can be judged include: the physical set up, equipment, and the qualifications of personnel attending the patients.

Although facilities in all maternity hospitals are not up to the highest possible standard, an analysis of Table XXII shows clearly that better facilities and more personnel with special training are available in the hospitals of 100 beds and over. The small hospitals, especially Groups I and II, compare very unfavorably with the large hospital in regard to segregation, training of personnel and facilities supplied. Group III, hospitals of 50 to 99 beds, is the top level of the small hospital group, and shows a definite tendency to approach the higher level maintained by the large hospital, but the average for this group still falls considerably below a good standard.

TABLE XXII. PERCENTAGE OF HOSPITALS WITH SELECTED MATERNITY SERVICES, ILLINOIS—1945

Maternity Services / Size of Hospital (Beds)	Total	Group I under 25	Group II 25-49	Group III 59-99	Group IV 100-249	Group V 250-499	Group VI 500 and Over	Maternity Hosp.
Delivery room	99½	95	100	100	100	100	100	100
Labor rooms	74	39	50	74	97	100	100	100
Delivery room separate from operating room	93	88	90	89	98	100	100	83
Postgraduate training of obstetric supervisor	49	7	19	57	73	77	83	50
Separate personnel in maternity dept.	70	10	40	80	100	100	100	100
Separate sterilizing equipment	62	20	37	54	93	84	83	100
Isolation of infected cases	99½	97	100	100	100	100	100	100
Separate OB department	66	5	37	54	93	84	83	83
Segregation of OB from other Patients	96	90	93	97	100	100	100	100
Average stay of normal obstetric patients:								
Less than 5 days	3	12	7	0	0	0	0	0
5-7 days	10	18	12	11	6	0	17	0
8-10 days	85	70	81	87	94	100	66	67
11 or more days	2	0	0	2	0	0	17	33
Separate nursery for normal and sick newborns	69	29	37	67	97	100	100	100
Separate nursing personnel	26	0	0	8	51	76	83	17
Postgraduate training of nursery supervisor	31	0	13	37	61	46	83	50
Incubator in normal nursery	84	90	91	91	80	69	67	33
Incubator in separate nursery	10	2	6	4½	14	31	33	17
No incubator	6	8	3	4½	6	0	0	50
Care of newborn directed by:								
General practitioner	27	83	59	10	1	0	0	0
Obstetrician	39	17	34	65	42	23	0	33
Pediatrician	27	0	3	19	45	62	67	67
Obstet. and Ped.	7	0	4	6	12	15	33	0
Formula room	77	37	63	80	100	100	100	100
Formulae prepared by:								
Dietitian	4	0	6	4	1	0	50	0
Registered nurse	96	100	94	96	99	100	50	100
Number of hospitals with maternity services	215	41	32	46	71	13	6	6

The following is a list of the institutions not classified as either general, nervous and mental, tuberculosis, or chronic and convalescent: they are grouped together under the heterogeneous category of allied special hospitals. This group of institutions could in most cases be considered as general hospital beds since the services they provide are also furnished in general hospitals which are large enough to provide complete services.

TABLE XXIII. ALLIED SPECIAL HOSPITALS IN ILLINOIS, 1945

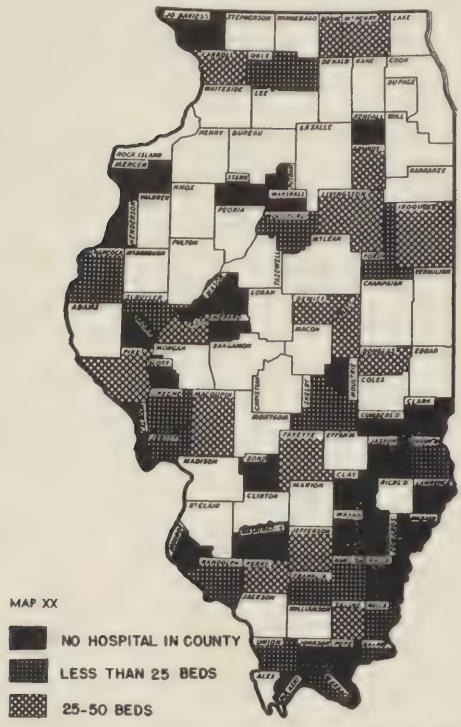
Type of Institution	Number of Institutions	Number of Beds
Maternity	4	157
Pediatric	4	474
Orthopedic	6	278
Eye, Ear, Nose and Throat	3	182
Contagious	4	559
Venereal Disease	1	240
Alcoholic	4	72
Orphans (Infirmary beds)	1	59
Maternity and orphans	4	413
Skin and Cancer	1	7
Emergency and First Aid	1	4
Arthritis and other Chronic	1	22
Psychiatric and Maternity	1	12
Detention Home Hospital	1	40
Sailor's and Soldier's Home Hosp.	1	71
Total	37	2,590

The services rendered by these institutions as measured by admissions, patient days and percentage occupancy are shown in Table XXIV. The chief reason for the low percentage occupancy of government controlled institutions in this category is the inclusion of contagious disease hospitals, which at the time of the Survey were absolutely vacant in some locations. With the great progress in preventive medicine and isolation techniques, and with full consideration of this low percentage occupancy figure, the wisdom of providing separate facilities for care of communicable diseases can be questioned.

TABLE XXIV. SELECTED STATISTICS IN ALLIED SPECIAL HOSPITALS BY CONTROL ILLINOIS, 1945

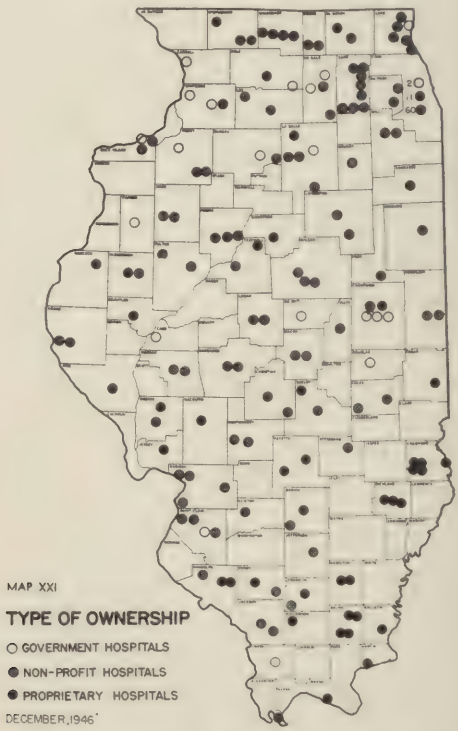
Control	Number of Hospitals	Bed Complement	Admissions	Patient Days	Average Census	Per Cent Occupancy
Non-profit	17	1,339	10,378	284,272	778.8	58.2
Proprietary	10	119	2,787	16,918	46.3	38.9
Governmental	10	1,132	13,764	130,351	357.1	31.5
Total	37	2,590	26,929	431,541	1,182.2	45.6

Counties Having Only Small or No Hospitals, Illinois, 1945



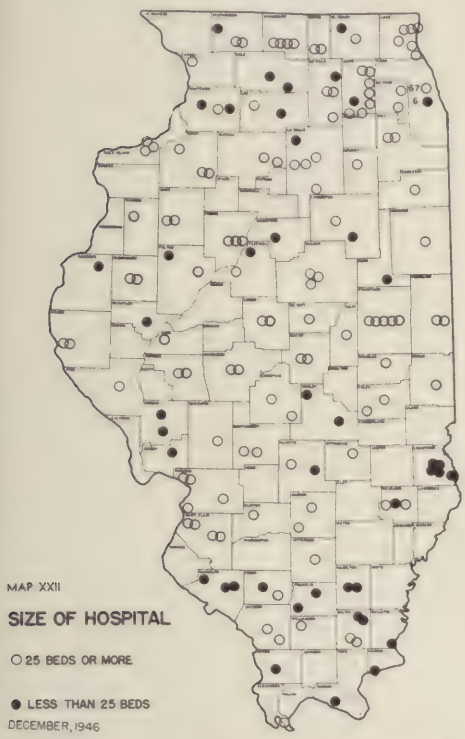
Map XX. COUNTIES HAVING ONLY SMALL HOSPITALS OR NO HOSPITALS, ILLINOIS, 1945. This map which shows counties with unfavorable hospital facilities was not intended to infer that the State study group believes that each county should have a hospital, but rather to illustrate the fact that currently inadequate hospital service exists in scattered areas of the State, particularly in southern Illinois where these areas are large blocks of contiguous counties.

General Hospitals In Illinois



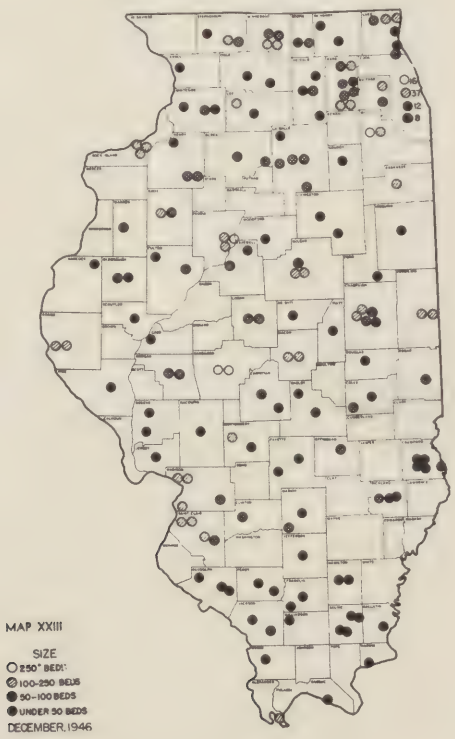
Map XXI. GENERAL HOSPITALS IN ILLINOIS BY TYPE OF OWNERSHIP, December, 1946. The study of this map reveals that there is fairly generalized distribution of voluntary non-profit hospitals throughout the State except in the southeastern portion. In that area we find multiple proprietary hospitals located fairly close together. These hospitals, as indicated in the preceding tables and as later data will show, are of small size and grossly incomplete in minimum basic services.

GENERAL HOSPITALS IN ILLINOIS

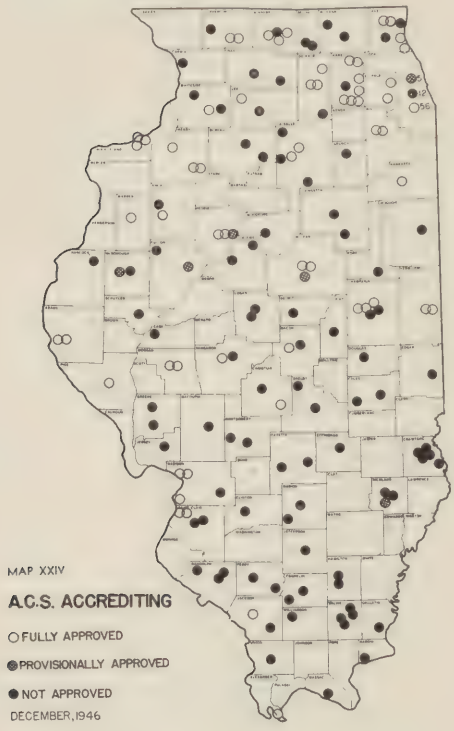


MAPS XXII AND XXIII. GENERAL HOSPITALS IN ILLINOIS BY SIZE OF HOSPITAL, December, 1946. These illustrations show that hospitals of under 25 and under 50 beds are ubiquitous, but are particularly numerous in the southern part of the State. A comparison of distribution of hospitals by type of ownership shows that most of the small hospitals are of proprietary control.

GENERAL HOSPITALS IN ILLINOIS
BY SIZE OF HOSPITAL



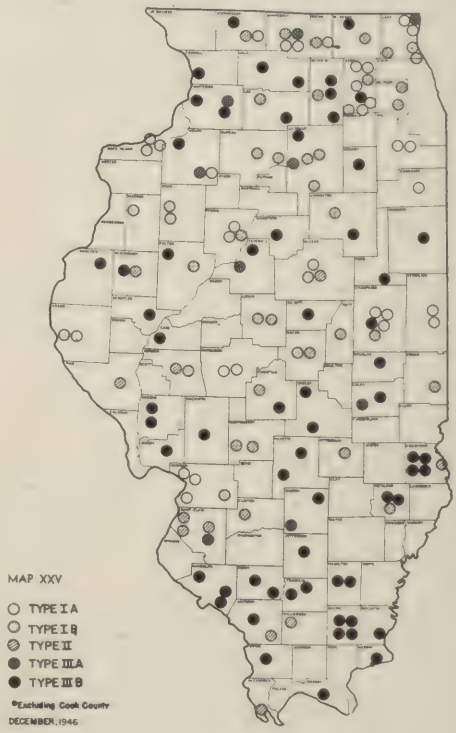
General Hospitals In Illinois

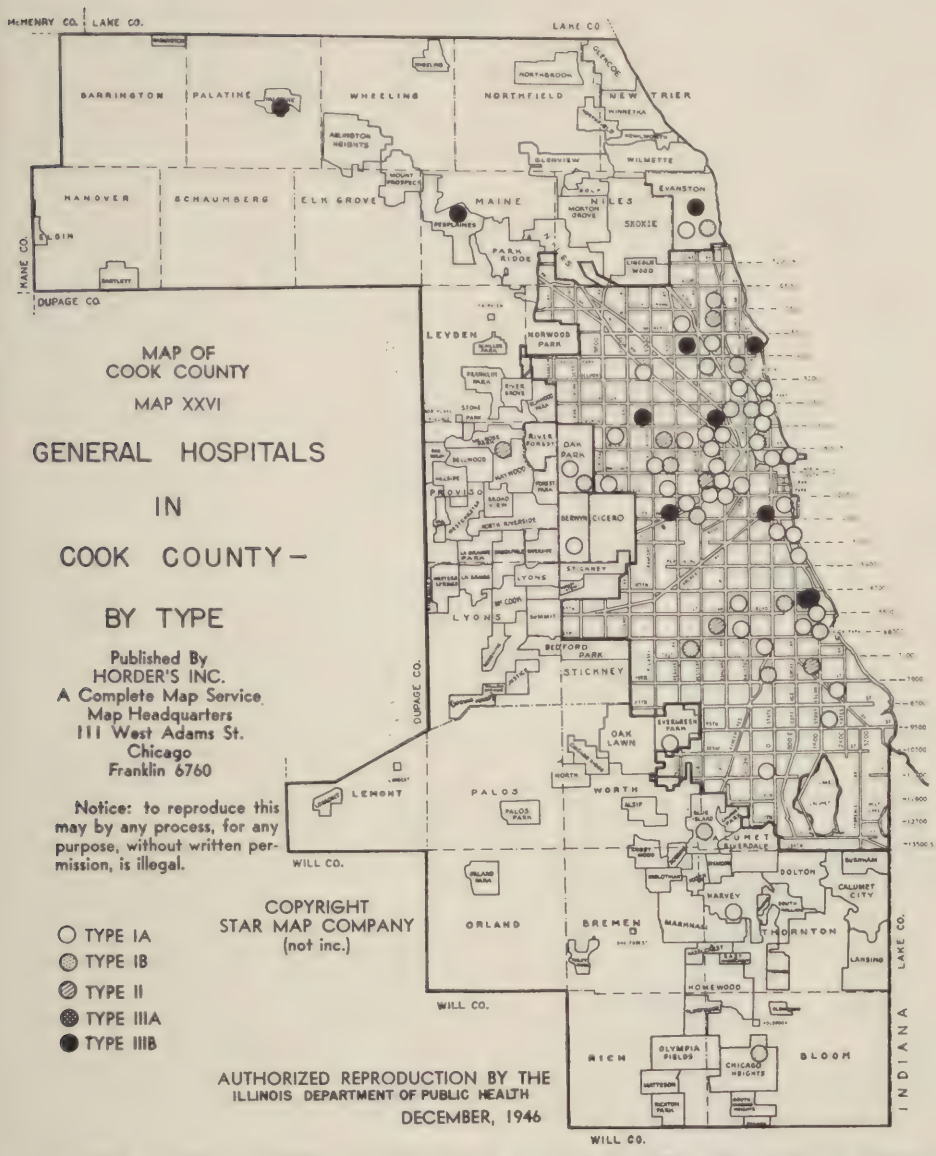


Map XXIV. GENERAL HOSPITALS IN ILLINOIS, A.C.S. ACCREDITING, December, 1946. Evaluation of hospitals by the American College of Surgeons is done upon invitation of the individual hospital and is based upon the following requirements:

1. That physicians and surgeons privileged to practice in the hospital be organized as a definite medical staff. . .
2. That membership upon the medical staff be restricted to physicians and surgeons who are (a) graduates of medicine of approved medical schools, with the degree of Doctor of Medicine, in good standing, and legally licensed to practice in their respective states or provinces. . .
3. That the medical staff initiate and, with the approval of the governing board of the hospital, adopt rules, regulations, and policies governing the professional work of the hospital. . .
4. That accurate and complete medical records be written for all patients and filed in an accessible manner in the hospital. . .
5. That diagnostic and therapeutic facilities under competent medical supervision be available for the study, diagnosis, and treatment of patients, these to include at least (a) a clinical laboratory providing chemical, bacteriological, serological, and pathological services; (b) an x-ray department providing radiographic and fluoroscopic services.

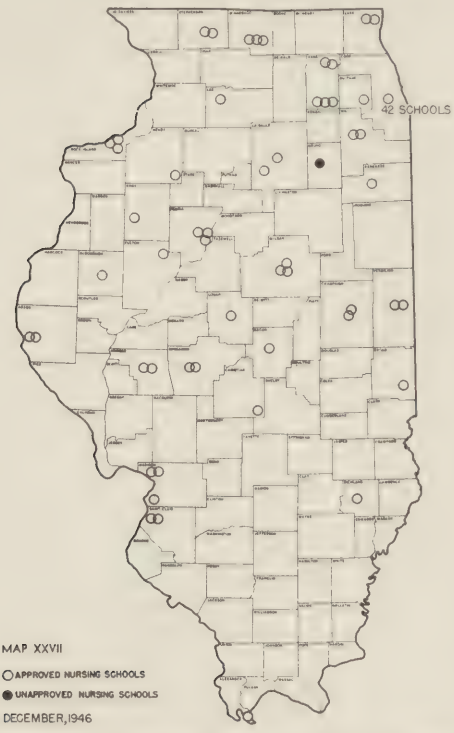
General Hospitals In Illinois By Type





MAPS XXV AND XXVI. GENERAL HOSPITALS IN ILLINOIS BY TYPE AND GENERAL HOSPITALS IN COOK COUNTY BY TYPE. December, 1946. These studies were made at the suggestion of the Technical Advisory Committee of the Advisory Council on Hospitals in order that the Committee could readily visualize the completeness of facilities existing in various areas of the State. Factors considered were the completeness of the laboratory and x-ray departments (as defined by the United States Public Health Service), the employment of qualified specialists and/or technicians in each of the departments, segregation of maternity departments, the presence or absence of a dietitian, and size over or under 50 beds. Type IA institutions were those whose schedules of information indicated the following: Complete laboratory and x-ray with qualified specialists either full or part-time, a segregated maternity department, and a dietitian. Type IB included all of the foregoing facilities, but did not afford qualified pathologists, radiologists or dietitians. Inclusion in this category called for a qualified technician in both the laboratory and x-ray departments. Type II were those institutions which had facilities for minimal laboratory and x-ray service, and stated that they referred special tests. Type III included those institutions not in Types I and II; Type IIIA are those institutions in this category with over 50 beds, Type IIIB under 50 beds.

NURSING SCHOOLS IN ILLINOIS



MAP XXVII. SCHOOLS OF NURSING IN ILLINOIS, 1946. Schools of nursing approved by the Department of Registration and Education are quite generally distributed throughout the State except in the southern third. This lack of facilities for training nurses in this critical area of the State is a natural by-product of the existence of multiple, small hospitals. In the absence of data from the Department of Registration and Education on the distribution of graduate registered nurses by county in Illinois, it is not possible to determine the effect of the absence of nursing schools on the distribution of nurses in those areas.

B. TUBERCULOSIS HOSPITALS

There are 30 tuberculosis hospitals in Illinois, 22 of which are controlled by government, 6 by non-profit associations and 2 by proprietary organizations. In addition to the 3,661 beds in these special hospitals for care of the tuberculous, there are 2,265 beds for tuberculosis in the State nervous and mental institutions, 574 beds in a unit at Oak Forest (Cook County), and 357 beds in general hospitals, which add to a grand total of 6,847 beds.

Seventy-one and one-half per cent of all admissions and 79.2 per cent of all patient days for tuberculosis were in government hospitals. The fact that the proportion of patient days is higher than the proportion of admissions indicates that patients in these hospitals have a longer duration of hospitalization than those in other facilities. Inasmuch as most tuberculosis admissions are on a non-acute basis, the high level of occupancy can with safety be maintained by this category of institutions. Many of the tuberculosis hospitals can and do operate with a waiting list of patients who, pending admission to the tuberculosis facility, may remain in bed at home or in another hospital. In order to ascertain the reasons behind the low level of occupancy the Illinois Hospital Survey Group sent a supplementary questionnaire to tuberculosis hospitals. The replies listed the following reasons for percentage occupancy below ninety: (1) physical structure of the plant (cottage plan) was such that cold weather prohibited use of all the beds in the facility; (2) shortage of personnel: (3) admission policies restricting care to residents of the county; and (4) decrease of need for tuberculosis facilities.

There were 2,116 persons employed in tuberculosis hospitals, 89.5 per cent of whom were full-time employees, 9.4 per cent part-time and 1.2 per cent volunteers. The average per diem cost for care in a tuberculosis hospital was $5.23. The comparable figure for general hospitals was $8.19.

TABLE XXV. TUBERCULOSIS HOSPITALS AND BEDS BY CONTROL, ILLINOIS—1945

Control	HOSPITALS		BEDS			
	Number	Per Cent of Total	Number		Per Cent of Total	
			Normal	Complement	Normal	Complement
All Hospitals	30	100.0	3,656	3,661	100.0	100.0
Non-profit	6	20.0	546	544	14.9	14.9
Proprietary	2	6.7	217	217	5.9	5.9
Governmental	22	73.3	2,893	2,900	79.1	79.2

TABLE XXVI. SELECTED STATISTICS FOR TUBERCULOSIS HOSPITALS BY CONTROL, ILLINOIS—1945

Control	Number of Hospitals	Bed Complement	Admissions	Patient Days	Average Census	Per Cent Occupancy
Non-profit	6	544	830	158,546	434.4	79.9
Proprietary	2	217	272	71,588	196.1	90.4
Governmental	22	2,900	2,765	756,310	2,072.1	71 5
City—County	22	2,900	2,765	756,310	2,072.1	71.5
State						
Total	30	3,661	3,867	986,444	2,702.6	73.8

Map XXVIII, Tuberculosis Sanatoria in Illinois, 1945, shows the distribution by county of existing facilities. Particularly noteworthy is the lack of facilities in southern Illinois.

In the course of the Survey a study was made of the means by which tuberculosis sanatoria can be erected. Although the problem of provision of facilities may be solved by additional beds under non-profit or proprietary control, the trend in tuberculosis care in Illinois, as elsewhere, is so strongly in the direction of government assumption of this responsibility that it seems impractical to look toward non-government sources for meeting existing needs.

A review of the statutes shows that tax funds to provide care of tuberculosis cases in Illinois may be obtained by the following laws:

1. The Municipal Sanitarium Law
2. The County Sanitarium Tax Law
3. The Sanitarium District (areas within one county but outside the city)
4. The Sanitarium District (multiple counties)
5. The Excess Tax Law

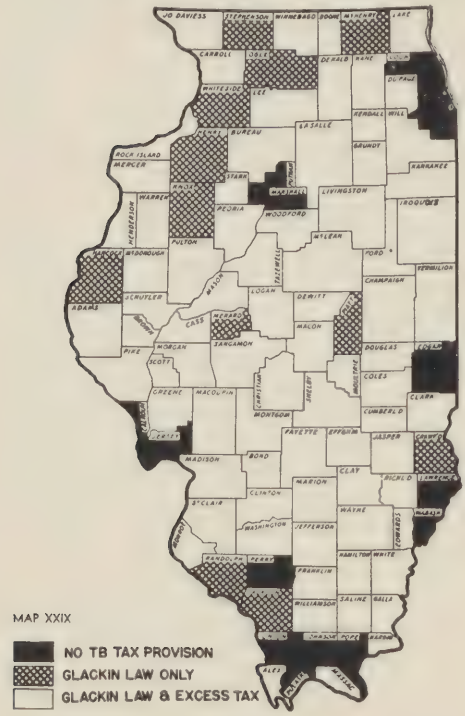
The Excess Tax Law is not a specific tax for tuberculosis care. The law permits county boards of supervisors to raise taxes in excess of the statutory limit for a specific purpose, provided the voters so indicate at a general election. The Excess Tax Law has been used in conjunction with the enabling statutes as a means to provide care for tuberculosis patients.

There are 20 Illinois counties which have tax supported tuberculosis hospitals. Of these, nineteen have made use of the County Sanitarium Tax Law to build and maintain hospitals and to provide tuberculosis care. The remainder of the 89 counties which have passed the County Sanitarium Law have not constructed hospital units, but use the funds for purchase of tuberculosis hospitalization from existing county and private sanatoria. Cook County provides tuberculosis facilities in the Oak Forest Infirmary and Cook County Hospital by means other than the County Sanitarium Tax Law.

Three municipalities of Illinois provide tuberculosis facilities by means of the Municipal Sanitarium Law. These cities are Chicago, Peoria and Rockford.

TUBERCULOSIS SANATORIA IN ILLINOIS, 1945

PROVISION BY COUNTIES FOR TUBERCULOSIS CONTROL IN ILLINOIS, 1946



Source: Illinois T. B. Ass'n.

MAP XXIX. PROVISION BY COUNTIES FOR TUBERCULOSIS CONTROL, ILLINOIS, 1946. Of the 102 counties of Illinois, 77 have passed the County Sanitarium Tax Law and the Excess Tax Law, 12 counties have passed only the County Sanitarium Tax Law and 13 counties have no specific tax provision for tuberculosis care. It is notable that Cook County, the most populous county of the State, has not passed the County Sanitarium Tax Law.

TABLE XXVII. TUBERCULOSIS FACILITIES IN ILLINOIS, 1945* BY TYPE OF CONTROL AND BED CAPACITY

Type of Control	Beds		
TOTAL BEDS			4,587
GOVERNMENT			3,467
Municipal		1,695	
1. Rockford	110		
2. Peoria	102		
3. Chicago Municipal	1,483		
County		1,772	
1. Adams	42		
2. Alexander	56		
3. Champaign	56		
4. Cook (Oak Forest)	574		
5. DeKalb	33		
6. Kane	80		
7. Lake	100		
8. LaSalle	86		
9. Livingston	54		
10. McDonough	44		
11. McLean	55		
12. Macon	80		
13. Madison	99		
14. Morgan	30		
15. Rock Island	67		
16. St. Clair	101		
17. Tazewell	45		
18. Vermilion	60		
19. Will	100		
20. Woodford	10		
PRIVATE TUBERCULOSIS HOSPITALS			763
Non-profit Association		546	
1. Fox River, Batavia	68		
2. Winfield, Winfield	76		
3. Edwards, Naperville	110		
4. Chicago Fresh Air, Chicago	62		
5. Zace, Winfield	50		
6. St. John's, Springfield	180		
Proprietary		217	
1. Ottawa, Ottawa	134		
2. Palmer, Springfield	83		
GENERAL HOSPITALS			357
Government		340	
1. Cook County	340		
Non-profit Associations		17	
1. Michael Reese	8		
2. University of Chicago Clinics	9		

*TB beds in penal institutions—Pontiac, 60

While most of the hospitals for tuberculosis care are supported by tax funds, there are six voluntary non-profit associations and two proprietary corporations devoted to the care of tuberculosis patients. The contribution of these institutions in the type of care provided and in filling the needs of the bed destitute areas of the State is immeasurable. These non-governmental hospitals aid too through care of referred patients from outside the State boundaries.

Three general hospitals, one of which is a county hospital, indicate that they have facilities for caring for tuberculosis patients. These are Michael Reese Hospital, Cook County Hospital and the University of Chicago Clinics.

Despite the possibility that tuberculosis may be eradicated within the not too distant future, as evidenced by decreasing tuberculosis mortality rates, additional tuberculosis facilities must be provided in the State to meet the serious problem of caring for persons suffering from this disease.

TABLE XXVIII. DEATHS FROM TUBERCULOSIS IN ILLINOIS, 1940-1944* (By Place of Residence)

State and County	1940	1941	1942	1943	1944
ILLINOIS	3,618	3,535	3,295	3,326	3,197
Adams	14	16	16	10	12
Alexander	32	28	21	20	19
Bond	3	4	2	3	3
Boone		3	3	3	2
Brown		2	1	2	2
Bureau	6	7	6	7	5
Calhoun		4	1	3	
Carroll	1	1	2	2	
Cass	3	6	4	5	
Champaign	14	11	14	7	9
Christian	10	8	6	15	7
Clark	2	1	2	3	
Clay	6	10	1	11	8
Clinton	6	8	3	4	2
Coles	7	10	8	4	7
Cook	2,372	2,311	2,165	2,142	2,002
Crawford	8	7	10	3	5
Cumberland	5	2	3	3	1
DeKalb	7	4	5	4	2
DeWitt	6	5	4	3	2
Douglas	9	4	2	4	4
DuPage	26	18	25	20	21
Edgar	7	6	5	5	3
Edwards	2	3	2	2	1
Effingham	3	6	7	3	4
Fayette	5	7	2	6	6
Ford	2	2	2	3	1
Franklin	17	24	22	24	9
Fulton	10	8	5	8	3
Gallatin	6	3	3	5	4
Greene	2	7	3	3	8
Grundy	3	3	4	6	6
Hamilton	4	5	9	9	5
Hancock	6		5	3	3
Hardin	8	7	4	8	8
Henderson	1	2		2	
Henry	7	12	4	6	7
Iroquois	7	6	1	4	2
Jackson	10	12	8	14	9
Jasper	5	3	2	3	2
Jefferson	8	11	7	7	14
Jersey	3	2	1	3	2
JoDaviess	1	1	3	3	5
Johnson	5	4	6	3	
Kane	63	62	51	51	60
Kankakee	101	103	110	115	115
Kendall	1			2	1
Knox	10	13	10	8	8
LaSalle	27	32	22	22	22
Lake	34	33	35	33	44
Lawrence	3	3	2	2	4
Lee	21	33	27	36	33
Livingston	18	12	7	5	9
Logan	24	22	19	19	20
McDonough	8	9	9	6	7
McHenry	2	2	9	3	4
McLean	20	11	18	11	13
Macon	18	19	12	13	15
Macoupin	7	14	2	12	7
Madison	59	48	65	55	68
Marion	19	14	17	16	17
Marshall	2	1	2	1	
Mason	1	2	3	5	1
Massac	11	10	14	19	8
Menard	4	2	1	5	3
Mercer	1	3	2	2	
Monroe	1	7		3	2
Montgomery	11	11	10	8	7
Morgan	25	18	28	25	27
Moultrie	1	1	8	2	3
Ogle	5	4	5	2	7
Peoria	66	66	52	52	76
Perry	7	3	4	1	2
Piatt	4	2	1	1	1
Pike	7	5	9	5	3
Pope	3	4	3	4	3
Pulaski	15	13	4	11	6
Putnam	1	1		1	2
Randolph	9	8	12	14	17
Richland	1	5	2	6	7
Rock Island	28	30	42	41	49
St. Clair	46	57	51	76	58
Saline	16	19	15	8	14
Sangamon	39	29	34	30	50
Schuyler	3	3		1	4
Scott	1	4	2		3
Shelby	6	7	2	7	8
Stark	3	1	2	1	2
Stephenson	7	2	5	4	6
Tazewell	12	8	9	10	9
Union	24	32	20	21	32
Vermilion	27	24	27	31	30
Wabash	7	5	5	5	2
Warren	5	4	4	4	2
Washington	2	2	2	3	3
Wayne	8	2	10	4	5
White	8	6	6	9	4
Whiteside	8	3	6	7	2
Will	49	36	29	40	38
Williamson	22	19	12	18	15
Winnebago	24	36	25	22	22
Woodford	3	6	3		2

TABLE XXVIII.—Concluded

*Including deaths in State institutions allocated to location of the institution.

Source: Division of Vital Statistics and Records

The number of tuberculosis deaths occurring in the homes of the State is one means of showing the serious source of tuberculosis infection and points out the lack of facilities to prevent this cause of death. Jacob Yerushalmy, Ph.D., Principal Statistician, Tuberculosis Control Division, United States Public Health Service, in his article in *Hospitals,* Volume 20, No. 8, entitled "The Statistics", presents the following statistics of tuberculosis deaths in Illinois for 1943-1944. Twenty-two and one-tenth per cent of respiratory tuberculosis deaths occurred in homes, 36.4 per cent in general hospitals, and 29.7 per cent in tuberculosis hospitals. Department of Public Health statistics on pulmonary tuberculosis deaths occurring in Illinois in 1945 show a similar distribution: 21.8 per cent not in institutions, 32.9 per cent in general hospitals, 32.8 per cent in tuberculosis hospitals.

In contrast to these statistics, survey schedules indicate that most of the general hospitals of the State refuse admission to patients known to be afflicted with tuberculosis, and most insist upon the removal of patients whenever the diagnosis of tuberculosis is made. The survey schedules show that only 357 beds in Illinois are specifically allocated for tuberculosis patients in the general hospitals. These beds are located in Cook County Hospital, the University of Chicago Clinics and Michael Reese Hospital.

TABLE XXIX. TUBERCULOSIS DEATHS OCCURRING IN ILLINOIS, 1945
(By Type of Institution)

Type of Institution	Pulmonary Tuberculosis		Non-Pulmonary Tuberculosis		Tuberculosis All Types	
	No.	%	No.	%	No.	%
Total	2,849	100.0	270	100.0	3,119	100.0
In institutions	2,227	78.2	220	81.5	2,447	78.4
Not in institutions	622	21.8	50	18.5	672	21.5
State Institutions	309	10.8	8	3.0	317	10.2
General Hospitals	1	0.0			9	0.3
Penal Institutions	8	0.3	3	1.1	11	0.4
Mental Hospitals	297	10.4	5	1.8	302	9.7
Other	3	0.1			3	0.1
Non-State Institutions	1,918	67.3	212	78.5	2,130	68.3
General Hospitals	938	32.9	190	70.4	1,128	36.2
Maternity and Children's Hosp.	1	0.0	3	1.1	4	0.1
Tuberculosis Hospitals	934	32.8	14	5.2	948	30.4
Other Special Hospitals	7	0.2	3	1.1	10	0.3
Penal Institutions	4	0.1			4	0.1
Mental Hospitals	18	0.6			18	0.6
Institutions for Chronics and Others	16	0.6	2	0.7	18	0.6

Source: Division of Vital Statistics and Records, Illinois Department of Public Health.

The tuberculosis sanatoria of the State are too few in number and maldistributed to furnish the care in the areas of greatest need in the State.

TUBERCULOSIS FACILITIES IN ILLINOIS

MAP XXX. TUBERCULOSIS FACILITIES IN ILLINOIS, 1946, depicts existing facilities by type of control and also includes the geographic location of proposed State tuberculosis hospitals, the construction of which was provided for by the 65th General Assembly.

The most noticeable feature of a map of the distribution of tuberculosis sanatoria in Illinois is the dearth of facilities in the southern part of the State and the too few sanatoria in the highly congested Chicago-metropolitan area. This area has over four million people, over half the population of the State, with too few beds to care for tuberculosis patients, and southern Illinois has relatively no beds to take care of patients suffering with the disease. As would be expected, these two areas have the highest mortality rate for tuberculosis in the State and in a meaningful manner define the areas of greatest need for tuberculosis facilities. The mid-portion of the State has a few well distributed tuberculosis sanatoria in whose utilization is reflected a lowered tuberculosis mortality rate for the section. The northern counties, except for Cook County, have the facilities and in general are doing commendable tuberculosis control work.

C. NERVOUS AND MENTAL HOSPITALS

The hospital care of neuro-mental patients in Illinois at the time of the Survey was to the extent of 97.7 per cent a service provided by the State institutions. This fact and the extent of participation of other types of institutions in providing facilities for care of this large community health problem is shown in the following tables.

TABLE XXX. NERVOUS AND MENTAL INSTITUTIONS AND BEDS BY CONTROL, ILLINOIS—1945

Control	HOSPITALS		BEDS			
	Number	Per Cent of Total	Number		Per Cent of Total	
			Normal	Complement	Normal	Complement
All Institutions	25	100.0	21,911	34,414	100.0	100.0
Non-profit	3	12.0	239*	283	1.1	0.8
Proprietary	11	44.0	518	518	2.4	1.5
Governmental	11	44.0	21,154†	33,613	96.5	97.7

*Includes Alethea Rest Home of 74 beds.
†Includes 72 beds at the Neuro-psychiatric Institute and 25 beds at the Veterans' Rehabilitation Center, both under the jurisdiction of the Department of Public Welfare and listed by them as institutions furnishing clinical and diagnostic services.

TABLE XXXI. SELECTED STATISTICS FOR NERVOUS AND MENTAL INSTITUTIONS BY CONTROL, ILLINOIS—1945

Control	Number of Hospitals	Bed Complement	Admissions	Patient Days	Average Census	Per Cent Occupancy
Non-profit	3	283	721	72,283	198.0	70.0
Proprietary	11	518	1,980	148,729	407.5	78.7
Governmental	11	33,613	10,177	11,718,115	32,104.4	95.5
City—County						
State	11	33,613	10,177	11,718,115	32,104.4	95.5
TOTAL	25	34,414	12,878	11,939,127	32,709.9	95.0

Both of these tables show the State institutions built to accommodate 21,154 patients were dangerously overcrowded and were operating at a high level of occupancy. Pictures publicized in early 1947 reveal that this gross overcrowding is accomplished by the use of small cots aligned like matches in a box and by providing only mattresses for those patients who cannot, because of lack of space, be furnished cots. The mattresses can be rolled out on the floors of "day-rooms" at night, and rolled up out of the way during waking hours. Patients in these institutions have a long period of hospitalization which is due in part to the nature of the pathology and to the type of procedures essential for admission.

Data presented in a preceding section (Table XIII—Death Rates in Hospitals by Control, Type and Size), indicate a lower death rate in non-governmental neuro-mental hospitals than in governmental facilities. The more favorable statistics for the former group undoubtedly result from the practice of transfer of a considerable percentage of long term and terminal patients to the State mental hospitals.

NERVOUS AND MENTAL FACILITIES IN ILLINOIS, 1945

MAP XXXI. NERVOUS AND MENTAL FACILITIES IN ILLINOIS, 1945, shows the distribution of existing institutions and emphasizes the lack of facilities in the southeastern part of the State.

TABLE XXXII. NERVOUS AND MENTAL FACILITIES IN ILLINOIS—1945

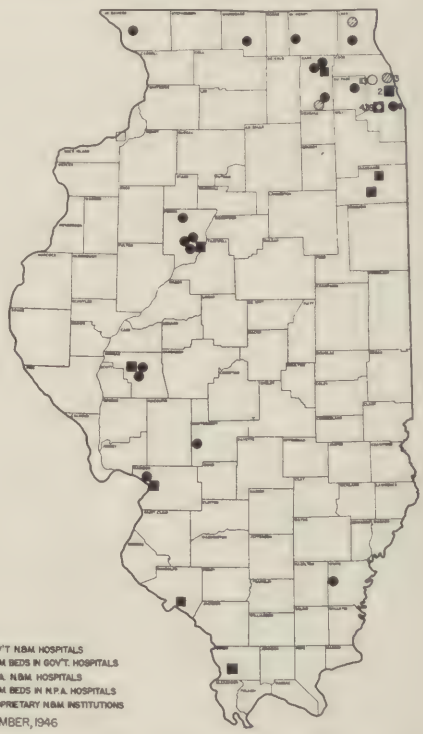
Type of Control	Location	No. of Beds (Normal)		
TOTAL BEDS				22,760
GOVERNMENTAL INSTITUTIONS				21,057
State			21,057	
1. Alton	Alton	1,084		
2. Anna	Anna	1,538		
3. Chicago	Chicago	2,757		
4. East Moline	East Moline	1,538		
5. Elgin	Elgin	3,037		
6. Jacksonville	Jacksonville	1,953		
7. Kankakee	Kankakee	2,393		
8. Manteno	Manteno	5,031		
9. Peoria	Peoria	1,726		
NON-GOVERNMENTAL INSTITUTIONS				683
Non-profit Association			165	
1. Pinel Sanitarium	Chicago	41		
2. Mercyville Sanitarium	Aurora	124		
Proprietary			518	
1. Forest Sanitarium	DesPlaines	29		
2. Kenilworth Sanitarium	Wilmette	47		
3. North Shore Health Resort	Winnetka	83		
4. Fairview Sanatorium	Chicago	43		
5. Parkway Sanitarium	Chicago	41		
6. Resthaven Sanitarium	Elgin	80		
7. Norbury Sanatorium	Jacksonville	100		
8. Costeff Sanitarium	Peoria	13		
9. Michell Farm	Peoria	30		
10. Michell Sanatorium	Peoria	22		
11. Elmlawn (Wilgus San)	Rockford	30		
GENERAL HOSPITALS				549
Government			436	
1. Cook County	Chicago	280		
2. Research and Educational	Chicago	156		
Non-profit Association			113	
1. Michael Reese Hospital	Chicago	18		
2. St. Joseph's Hospital	Chicago	24		
3. St. Luke's Hospital	Chicago	25		
4. U. of Chicago Clinics	Chicago	12		
5. Wesley Memorial Hospital	Chicago	34		
OTHER				471
Neuro-Psychiatric Institute	Chicago	72		
Veterans' Rehabilitation Center	Chicago	25		
Seventeen rest homes		374		

TABLE XXXIII. PATIENTS PRESENT IN MENTAL HOSPITALS, JUNE 30, 1917-1946

Year	Total	Increase Over Preceding Year	
		Number	Per Cent
1946	32,667	913	2.9
1945	31,754	549	1.8
1944	31,205	295	1.0
1943	30,910	—152	—0.5
1942	31,062	—928	—2.9
1941	31,990	422	1.3
1940	31,568	693	2.2
1939	30,875	1,085	3.6
1938	29,790	1,056	3.7
1937	28,734	1,241	4.5
1936	27,493	918	3.5
1935	26,575	582	2.2
1934	25,993	774	3.1
1933	25,219	1,092	4.5
1932	24,127	911	3.9
1931	23,216	767	3.4
1930	22,449	997	4.6
1929	21,452	79	0.4
1928	21,373	929	4.5
1927	20,444	199	1.0
1926	20,245	297	1.5
1925	19,948	492	2.5
1924	19,456	508	2.7
1923	18,948	295	1.6
1922	18,653	786	4.4
1921	17,867	769	4.5
1920	17,098	158	0.9
1919	16,940	—264	—1.5
1918	17,204	—156	—0.9
1917	17,360		

Source: Division of Research and Statistics, Illinois Department of Public Welfare.

NEUROMENTAL FACILITIES IN ILLINOIS



MAP XXXII. NEURO-MENTAL FACILITIES IN ILLINOIS, DECEMBER, 1946, shows existing facilities according to type of control.

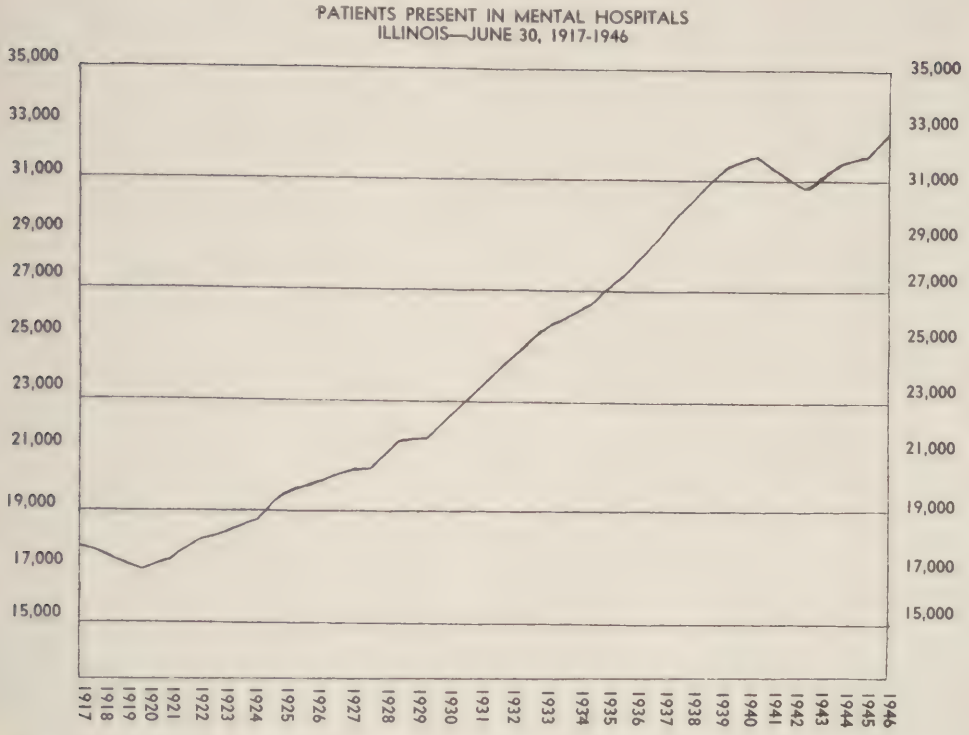


FIG 3. PATIENTS PRESENT IN MENTAL HOSPITALS, ILLINOIS, JUNE 30, 1917-1946 shows the increase in resident population in the State institutions for nervous and mental diseases over the past thirty years. The consensus is that this increase does not so much show an increase in incidence of mental illness as it illustrates the increased recognition of existing patients with mental disturbances and the trend of institutionalizing persons who are unable to care for themselves in our complex mechanized society.

There were 5,709 employees in the nervous and mental hospitals. Of these 400 were volunteers, 124 worked part-time and the remaining 5,185 were full-time personnel. The cost per patient day in these institutions was the low figure of $1.25, which reflects custodial type of care and extensive patient participation in the economy of the institutions.

D. CHRONIC AND CONVALESCENT INSTITUTIONS

The Survey, at the start, listed nearly 700 places that gave some kind of care to persons other than members of the family. Schedules of information were filed by almost all of this large number, but, after review of the data and consultation with the staff of the Commission on Hospital Care only 362 of the institutions were classified as nursing homes. The life care and domiciliary institutions were not included. The 362 nursing homes provided a total of 11,513 beds for the care of chronic and convalescent patients.

Of the 11,513 beds, 574 were in the tuberculosis unit at Oak Forest and 374 were in rest homes licensed by the Department of Public Welfare for the care of neuropsychiatric cases.

Nursing homes vary considerably in the type of patient for whom they provide care and only a very small precentage of the total number of existing homes have any liaison whatsoever with local community hospitals. The amount and quality of nursing service fluctuates from home to home and from patient to patient, depending more on the fiscal status of the home than on the needs of the patient. Care in the largest percentage of institutions is provided by practical nurses who are usually the owners or operators of the home. Only a few institutions offer registered nursing service or practical nursing service under the

TABLE XXXIV. CHRONIC AND CONVALESCENT INSTITUTIONS AND BEDS, BY CONTROL, ILLINOIS—1945

Control	INSTITUTIONS		BEDS			
	Number	Per Cent of Total	Number		Per Cent of Total	
			Normal	Complement	Normal	Complement
All institutions	362	100.0	11,521	11,513	100.0	100.0
Non-profit	68	18.8	4,540	4,379	39.4	38.0
Proprietary	274	75.7	4,187	4,206	36.3	36.5
Governmental	20	5.5	2,794	2,928	24.3	25.4

TABLE XXXV. SELECTED STATISTICS FOR CHRONIC AND CONVALESCENT, BY CONTROL, ILLINOIS—1945

Control	Number of Institutions	Bed Complement	Admissions	Patient Days	Average Census	Per Cent Occupancy
Non-profit	68	4,379	4,199	1,161,075	3,181.0	72.6
Proprietary	274	4,206	2,927	935,050	2,561.8	60.9
Governmental	20	2,928	513	255,923	701.2	23.9
Total	362	11,513	7,639	2,352,048	6,444.0	56.0

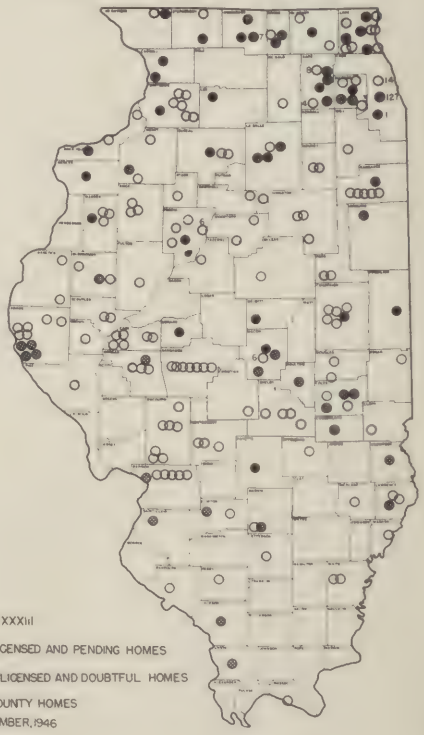
supervision of a registered nurse. Almost none of the homes is equipped to provide more than the most simple types of bed and board. Services to brighten the patient's day, programs for occupational therapy and rehabilitation are conspicuous by their absence.

Medical care is for the most part provided by family physicians who see the patient on call. None of the institutions included in this category provide resident physician services.

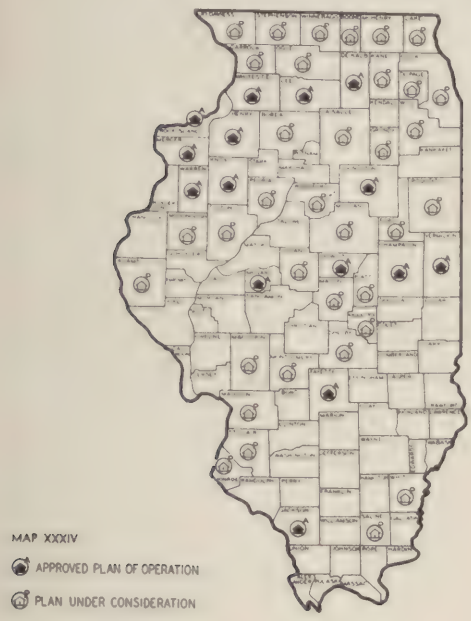
The patient group in most of the homes is heterogeneous in the extent of debility: some of the patients are just old folks without a home of their own, others are senile and generally weakened, some continent and others incontinent of both urine and feces, some have amputated limbs, terminal carcinoma, others have cardiovascular-renal diseases complicated by cerebral accidents. Some patients are totally bedfast, others semi or completely ambulatory. The meager facilities in the existing small proprietary nursing homes do not permit grouping of patients in accordance with clinical conditions.

The low per cent occupancy for this entire group follows from the fact that for the most part the institutions are small and consequently would have a low rate. In this type of institution the death rate is quite high due to the large percentage of terminal illness cases and aged in the institutions. The institu-

NURSING HOMES IN ILLINOIS



PROGRESS OF COUNTY HOME PROGRAM FOR CARE OF THE CHRONICALLY ILL IN ILLINOIS, MAY, 1947



tions had 3,395 workers, 84.5 per cent of whom were full-time employees. The average per diem cost of operation among these institutions was $1.81, which figure was based on incomplete reporting and estimates of funds expended as through memory of the owner.

Of the tri-partite classification of facilities for patients in the chronically ill category,

A. Patients requiring diagnosis, intensive medical care, and treatment,

B. Patients requiring chiefly skilled nursing care under medical supervision, and

C. Patients requiring only custodial or attendant care,

the censensus is that existing nursing homes in Illinois are in Group B. To be sure some of the institutions provide only custodial care but have potentialities for meeting the requirements of Group B patients in the chronically ill category.

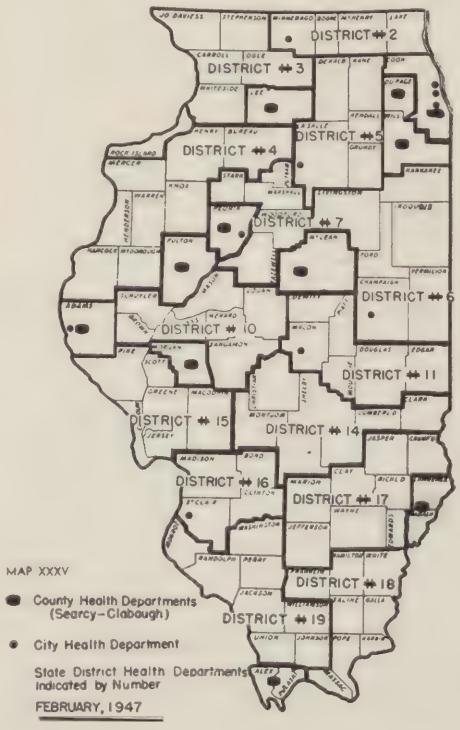
During the time of the Survey the Rennick-Laughlin Bills became law and thereby provided a means for counties with existing county homes for the destitute to convert these facilities into county nursing homes for care of non-acute patients in all economic brackets. These county homes are usually part of the county farm and are buildings of fairly stable construction, but old. While they do not have any potentialities of meeting the needs of chronic disease hospitals, they are being wisely converted into county nursing homes to meet the great need for this type of facility.

The two accompanying maps show the location of nursing home facilities in Illinois.

E. PUBLIC HEALTH FACILITIES

Any evaluation of the existing local health facilities must take cognizance of the facts that (1) the need for statewide coverage by local health departments has been universally accepted in Illinois only comparatively recently, and (2) since 1943 development of local health units has been proceeding according to

COUNTY AND STATE DISTRICT HEALTH DEPARTMENTS IN ILLINOIS



a statewide plan. The details of the blueprint for guidance in the development of local health facilities and the extent to which the objectives have been realized is discussed in Section IV E in connection with the State Plan. The following map shows the pattern of distribution of local health services at the time of the Survey, and Table XXXVII shows the population served by each local full-time health facility.

At present there is only one health department in Illinois, the Champaign-Urbana Health District, which has quarters especially constructed for this purpose. The remainder of the full-time county, city and local district health departments are housed in structures which were designed for commercial purposes or in government buildings. In neither case are the quarters occupied by the health department conducive to efficient operation. There are no local health departments operating in conjunction with or in close liaison with general hospitals.

The following table is a summary of personnel employed in local health departments exclusive of the City of Chicago. These personnel have ready access to specialized consultants employed by the State Department of Public Health.

TABLE XXXVI. LOCAL HEALTH DEPARTMENT PERSONNEL BY TYPE OF EMPLOYEE

TOTAL PERSONNEL		593
Total full-time personnel	551	
Physicians	62	
Nurses	217	
Dentists	11	
Pediatricians	5	
Sanitary Engineers & Allied Personnel	77	
Communicable Disease Investigators	22	
Health Educators	8	
Medical Social Work	2	
Veterinarian	1	
Nutritionist	1	
Clerical and Maintenance	124	
Other full-time personnel	21	
Part-time personnel	42	

TABLE XXXVII. FULL-TIME HEALTH DEPARTMENTS IN ILLINOIS, JUNE, 1947

Department	Population Served—1940 Census
A. URBAN	
1. Chicago City Health Department	3,396,808
2. Evanston City Health Department	65,389
3. Winnetka-Kenilworth-Glencoe Health Department	22,190
4. Rockford City Health Department	84,637
5. The Hygienic Institute—(LaSalle, Peru, Oglesby)	25,733
6. Peoria City Health Department	105,087
7. Decatur City Health Department	59,305
8. Champaign-Urbana Health District*	38,315
9. Quincy Health District*	40,469
10. East Side Health District*	99,499
Total	3,937,432
*Organized under the Coleman Act.	
B. COUNTY DEPARTMENTS IN OPERATION	
1. Cook County Health Department	578,955
2. DuPage County Health Department	103,480
3. Will County Health Department	114,210
4. Lee County Health Department	34,604
5. Peoria County Health Department	48,287
6. Fulton County Health Department	44,627
7. Adams County Health Department	24,760
8. Morgan County Health Department	36,378
9. McLean County Health Department	73,930
10. Lawrence-Wabash County Health Dept.	34,799
11. Alexander-Pulaski County Health Department	41,371
Total	1,135,401
C. COUNTY DEPARTMENTS AUTHORIZED- BUT NOT YET OPERATING	
1. Piatt-DeWitt County Health Department	32,903
2. Shelby County Health Department	26,290
3. Effingham County Health Department	22,034
4. Montgomery County Health Department	34,499
5. Pope-Hardin-Massac-Johnson Co. Health Department	41,422
Total	157,148

Department	Population Served	Per Cent of State Population Served
D. RECAPITULATION		
1. Urban Health Departments	3,937,432	50%
2. County Health Departments	1,135,401	14%
3. County Health Departments (Authorized, but not yet Operating)	157,148	2%
Total	5,229,981	66%

F. COORDINATION OF HOSPITALS

The establishment of hospital facilities in Illinois to the present time has not been a planned development for fulfilling needs and providing high quality service for communities. The sporadic growth of our hospitals has been independent of any thought to combine, coordinate or cooperate in providing the services essential to complete fulfillment of the hospital's place in the community. Services available in our hospitals have been governed for the most part by the capabilities of the staff of physicians, or the single physician. The public has had no assurance that the hospital it uses has the personnel, equipment and financial soundness to meet even average community illness. The people have had to rely solely upon the physician who has thought largely in terms of doing his daily work to the best of his ability, with only small consideration being given to the quality of hospital care and the adequacy of facilities available to his patients. Recognition of the limitations of professional ability and the inadequacy of equipment have engendered the only coordination of professional and hospital services thus far, and this referral arrangement is contingent upon the physician's professional acquaintances.

SECTION III. LEGISLATION PERTINENT TO HOSPITAL CONSTRUCTION

CHAPTER I. THE FEDERAL HOSPITAL SURVEY AND CONSTRUCTION ACT

With the signing by President Truman of the Hospital Survey and Construction Act (Public Law 725) on August 13, 1946, an appropriation of $375,000,000 was authorized during the next five years for the construction of hospitals and health centers in the United States. Three million dollars was also authorized for State-conducted surveys of need which had to be made preliminary to the granting of Federal funds for construction.

The Act provides latitude for each state to develop its own program of hospital and health center construction, to be administered by state authorities under standards specified by the United States Public Health Service. These standards established by the Surgeon General with the assistance of the Federal Hospital Council[1] are outlined in great detail in order both to guide states in the development of a sound plan and to provide local communities and their architects with the essentials of an acceptable and worthwhile hospital.

"This Act sets for the first time a national policy which makes it clear that hospitals in the future must be planned, located and operated in relation to the overall health needs of the people. This policy, as evolved through the leadership of hospital authorities of the country, is recognition of the integrated role that hospitals and health centers must play in the future. Adequate hospitals, health centers and related physical facilities are the essential workshops, without which it is not possible to provide even a minimum of modern health and medical services."[2]

In Illinois, the State agency designated to carry out the survey, planning, and construction program is specified in House Bill 284 which was signed by the Governor on July 18, 1947. The statute specifies that there be appointed a hospital advisory council of eighteen members to consult with the State agency.

Federal funds available to Illinois for survey and planning for the five year period totalled $172,578 to be matched two to one by State or local funds. The first Federal allotment for the actual construction of facilities became available July 2, 1947. The construction allotment for Illinois, based on the Federal-Percentage formula, is $2,770,725 and is available as a contractural obligation of the Federal government.

It was required that each state participating in the Federal program enact legislation before July 1, 1948, demanding compliance with minimum standards of operation and maintenance on the part of hospitals receiving Federal grant-in-aid funds. House Bill 993 which was passed by the State Legislature and signed by the Governor authorizes the State Department of Public Health, with the assistance of the Hospital Advisory Council, to promulgate such standards.

Applications for funds for individual construction projects must be channeled through the designated State agency. Federal funds for local construction projects may not exceed one-third of the cost of a project. Before any single project is approved by the Surgeon General, sufficient evidence must accompany the building request to show that two-thirds of the total cost of construction is available from other-than-Federal sources, and that financial support is adequate for the maintenance and operation of the institution after completion.

[1] Thomas Parran, M.D., (ex officio); Mr. Watson B. Miller, (ex officio); Mr. Albert W. Dent; Msgr. John J. Bingham; Mr. Graham Davis; Robin Buerki, M.D.,; Michael Davis, M.D.; Honorable J. Melvin Broughton; Mrs. Evelyn Hicks; Mr. Clinton S. Golden.

[2] Thomas Parran, M.D., Surgeon General, United States Public Health Service.

Communities must plan their hospitals to accommodate as effectively as possible the overall health needs of the people. To realize this it is essential that they make early contact with the State agency to integrate their thoughts and planning with the STATE PLAN. Communities can thereby benefit from the State agency's experience in the selection of the site, site survey, general location, organization and ultimate planning and operation of the facility.

The text of Public Law 725, United States Public Health Service Regulations and Appendix A and B to the Regulations are contained in Appendix A of this publication.

CHAPTER II. THE ILLINOIS HOSPITAL CONSTRUCTION ACT

Early in the survey and planning stage of the Illinois Hospital Program it became apparent that some communities in dire need of hospitals could not benefit from the provisions of the Federal Act because, on the basis of their assessed valuation and income, the necessary local two-thirds of the cost of an anticipated project could not be raised either by voluntary pledges or through taxation. To meet these circumstances the Sixty-fifth General Assembly passed the Illinois Hospital Construction Act which was signed by Governor Green on August 8, 1947.

This Act (H.B. 315) provides the authority and Senate Bill 662 which was passed at the same session makes an appropriation of $4,675,000 for the biennium ending June 30, 1949. House Bill 315 stipulates that the amount of State money allotted for any one project shall not exceed one-third of the actual cost of construction of the hospital, and this allotment may be in addition to any money made available from Federal funds. It further specifies that in the event State funds are inadequate for granting aid to all otherwise approved projects, the Director of the State Department of Public Health, with the advice of the Advisory Council, shall give priority to hospitals from areas where the need for hospital facilities is greatest.

It is clear that the grant-in-aid money from both Federal and State sources is not sufficient to assist in the construction of all facilities needed. In view of this, each community is urged to exert every effort to finance locally the project in its entirety. In those instances where Federal funds may be forthcoming but the community is unable to raise sufficient local funds to meet entirely the remaining two thirds of the project cost, it is the intent of the Illinois Hospital Construction Act to make available, within the limitations of the Act, such State money in an amount only as may be needed to assist in the realization of the hospital.

Other State legislation pertinent to hospital construction which was passed by the Sixty-fifth General Assembly and signed by the Governor include House Bills 280, 284 and 993 and Senate Bill 221. House Bill 280 provides for the establishment of State tuberculosis sanitaria for the care and treatment of persons afflicted with tuberculosis. House Bill 284 amends Sections 6 and 55 of the Civil Administrative Code of Illinois authorizing the establishment of an Advisory Hospital Council and designating the State Department of Public Health as the official State Agency. House Bill 993 authorizes the State Department of Public Health, with the assistance of the Advisory Hospital Council, to promulgate minimum standards of maintenance and operation for any hospital receiving Federal aid under the provisions of Public Law 725. Senate Bill 221 provides for the creation of a Hospital Authority for purposes of establishment, maintenance and operation of hospitals. Sections from the text of these Acts can be found in Appendix A of this publication.

CHAPTER III. METHODS OF OBTAINING A HOSPITAL IN A COMMUNITY

There are several financial plans which communities may legally use in the attainment of a hospital. The selection of any method will be governed by the desires of the community and local conditions and circumstances which may otherwise lend an influence. The final objective is the same in each case—a properly located, substantially constructed, financially sound and efficiently operated hospital to serve the health needs of the people.

1. Community Drive.

The most important single factor determining the success or failure of a community financial campaign is that the public mind be well acquainted with the need for a hospital and its value to the community. Even though a large part of the money will probably come from a few heavy contributors, each individual should be given an opportunity to participate in the project. Careful study must be given not only to the wealth of the community but to the willingness of its people to use their financial resources to provide themselves with good hospital care. There is frequently a person in the community who wishes to bequeath money in memory of himself or a dear member of his family.

2. Taxation Authorized for Townships.

"AN ACT to authorize townships to levy a tax for the purpose of maintaining and operating public non-sectarian hospitals, approved July 24, 1945. (From Chapter 139, Illinois Revised Statutes, 1945—Paragraphs 160.1—160.5)."

"AN ACT authorizing any town having a population of less than 500,000 to establish, acquire by purchase or otherwise, construct, improve, extend, repair, equip, maintain and operate a public hospital and to levy taxes and issue bonds therefor, approved July 17, 1945. (From Chapter 139, Illinois Revised Statutes, 1945—Paragraphs 160.6—160.16)."

3. Taxation Authorized for Municipalities.

"AN ACT authorizing cities of less than 100,000 population to levy a tax for the establishment and maintenance of a public hospital or for the purchase and maintenance of an existing non-sectarian public hospital within or without the city. (From Chapter 24, Illinois Revised Statutes, 1945—Section 44, Paragraph 1.)"

4. Taxation Authorized for Counties.

"AN ACT authorizing counties to levy a tax for the purpose of maintaining public non-sectarian hospitals, approved July 15, 1943. (From Chapter 34, Illinois Revised Statutes, 1945—Paragraphs 175.31—175.33)."

5. Creation of a Hospital Authority.

The Sixty-fifth General Assembly passed an Act (S.B. 221) in relation to Hospital Authorities, which became law with the Governor's signature on July 23, 1947. The purpose of the Act is for the establishment and continued maintenance and operation of safe, adequate and necessary public hospitals and public hospital facilities within the State of Illinois. The Act also provides for the creation of Hospital Authorities having powers necessary or desirable for the establishment and continued maintenance of such hospitals. The synopsis of the Act and its provisions are as follows:

A. The purpose of the Act is the establishment, maintenance, and operation of hospitals and hospital facilities, and the creation of Hospital Authorities having the necessary powers to establish and maintain such hospitals within the State of Illinois.

B. The territory comprising a Hospital Authority may be any compact and contiguous territory having a population of not less than five thousand and containing one or more municipalities (a municipal-

ity is defined as any city, village, or incorporated town). The incorporation of a Hospital Authority is accomplished in the following manner:

(1) Any five hundred or more electors residing within the area may file a petition with the County Clerk. The petition shall give a description of the territory, the names of the proposed Authority, a request that the question be submitted to the voters and the approximate location of the hospital. The county judge shall then set the petition for hearing and give public notice on the same. The filing fee and costs of printing and publication shall be advanced by the petitioners and repaid out of the first funds received by the Hospital Authority.

(2) After the public hearing, the county judge shall determine whether the territory meets the requirements of the act and the petition is sufficient, and then order an election to be held not less than thirty nor more than ninety days thereafter.

(3) If a petition, signed by one thousand legal voters or not less than 10 per cent of the voters whichever is fewer, is submitted to the judge requesting a separate vote in the unincorporated area outside of the municipalities, the court shall order the vote in such area outside of the municipality to be kept separate; and those polling places which are wholly outside the corporate limits shall be canvassed separately.

(4) Public notice shall be given of such election and the ballots shall be in substantially the following form:

Shall "An Act in relation to Hospital Authorities" effective the..... day of ..... 19... be adopted, and the..... ..... Hospital Authority be established:	YES	
	NO	

(If established, said Hospital Authority will have the powers, objects and purposes provided by said Act, including the power to levy a tax of not to exceed .075 per cent of full, fair cash value of taxable property, as equalized or assessed by the Department of Revenue, for hospital operation and maintenance and other corporate purposes.)

The court shall establish election precincts and there will be separate precincts outside and inside the municapilities.

C. In case the territory is situated in two or more counties, the petition shall be filed in the office of the county clerk of the county in which the greater portion of the territory is situated and certified copies of the orders will be filed with the county clerk of the other counties.

D. If a majority of the votes cast on the question are in favor of the adoption of the Act, inhabitants shall be deemed to have accepted the provisions; except that if the votes outside of the municipality are canvassed separately then the inhabitants of the territory outside the municipalities shall not be deemed to have accepted the Act unless they separately have voted a majority together with a majority within the municipality.

E. The governing body of the Hospital Authority shall be a board of commissioners. A detailed formula is established by the act showing how many commissioners will be appointed depending upon how many municipalities and how many counties are involved. If it be assumed that two or more counties and two or more municipalities will

be involved, the commissioners would be appointed as follows:

(1) Two commissioners from each municipality over 5,000 population.

(2) Two commissioners from the area outside the municipality in the county having the largest area.

(3) One commissioner from each other county area outside of municipalities where the county area exceeds five thousand or more.

(4) Two commissioners at large.

Commissioners appointed from municipalities shall be appointed by the mayor or village president, and commissioners for areas outside shall be appointed by the county judge of the county in which the greater portion of the area is situated. The terms of office of the commissioners shall be for five years and the initial appointments shall be staggered one, two, three, four and five year terms.

F. The Act sets forth the qualifications of commissioners. They must not have any financial or professional interest in the establishment of the hospital; and they must not be an officer or an employee of a municipality, State or Federal government, or any other public agency. The commissioners shall serve without compensation.

G. The Hospital Authority shall constitute a separate municipal corporation and shall have the power to establish and maintain the hospital, to acquire land, condemn property, provide rules for the hospital, borrow money, issue bonds, enter into contracts, extend the privileges of the hospital to persons residing outside the area on such terms as the board of commissioners may prescribe, exercise police power with reference to the hospital, and many other powers incident to operation and maintenance of hospitals.

H. The aggregate amount of tax for one year exclusive of the amount levied for bonded indebtedness can not exceed the rate of .075 per cent of the full, fair cash value of the taxable property in the area.

I. The Authority may secure the necessary funds to finance part or all of the costs of acquiring, establishing, constructing, developing, expanding, extending or further improving a public hospital within its corporate limits through the issuance of bonds, the principal amount of which, at any one time, shall not exceed 5 per cent of the full fair-cash value of taxable property, provided that bonds in excess of 1½ per cent shall not be issued without a special vote of the electors. Before the issuance of any bonds, the board of commissioners shall send the plans to the Department of Public Health for approval and the ordinance providing for the issuance of the bonds shall not be passed until such approval is obtained. The Hospital Authority has the power to receive a grant or loan of money or financial aid from the State or Federal government including the right to build and operate a hospital as a joint operation with such State or Federal government.

J. Any ordinance providing for the issuance of bonds shall provide for the levy and collection of the direct annual tax, sufficient to meet the principal and interest of said bonds, which tax shall be in addition to and in excess of any other tax authorized to be levied by the Authority. The board also has the power to issue bonds, notes or certificates of indebtedness which are payable solely from operating revenue.

SECTION IV. THE ILLINOIS STATE PLAN

Although the hospitals of Illinois have achieved a remarkable record in providing care, hospital service of the level of excellence which is both desirable and practicable is not available in all areas of the State. The distribution of existing facilities has for the most part occurred without pattern for either the local communities or for larger geographical areas.

It is evident that all desirable changes in the existing hospital and health services facilities cannot be carried out at once but must follow in course of time through long-range planning with periodic adjustments based on changing demographic conditions and increased experience with joint planning between hospital authorities, health service personnel, and the general public.

The Federal regulations pursuant to the Hospital Survey and Construction Act require that there be annual review of the Plan and the Act itself specifies that the agency designated to administer the State Plan be guided by a hospital advisory council comprised of the representatives of the interested groups mentioned above.

A. GENERAL HOSPITALS

To provide for the location of general hospitals on an area basis and in accordance with community needs, trade practices and resources, the Illinois State Plan as it relates to the location of general hospitals is based on the use of the so-called "bisector method". Delineation of hospital areas by the "bisector method" consists of halving the distance between communities of 10,000 or more population where practicable. In areas of the State where communities of 10,000 are less numerous and consequently the distances between them are greater, smaller towns have been selected as centers of hospital communities. The object of the mapping of general hospital facilities by this method is to avoid numerous small rural hospitals and, at the same time, to provide hospital facilities in accordance with the concept of adequate general hospital service at distances not to exceed 30 miles from the remotest section of the hospital community to the facility. In northern Illinois there are many cities of 10,000 or more population which might reasonably be expected to be hospital centers, and in this section of the State, where multiple cities are grouped together, the center of the aggregate of cities was used to establish the radius of the community. In southern Illinois where the communities are smaller the size of hospital centers was gradually reduced to include cities of 4,000 population. The bi-sector method of planning hospital areas creates 74 communities which are of irregular geometric pattern but correspond quite closely with the trade areas of each of the center communities. The population of these 74 communities on the basis of the 1940 census by township varies from 15,000 to 225,000 per community with the exception of the metropolitan Chicago area which has a population of over 4,000,000.

The bisector method has certain recognized shortcomings as is undoubtedly true of any other method to delimit socio-economic forces of communities. Chief among these is the fact that the time-distance factor is not an invariable measure of community cohesion. The advantage of the bisector method of circumbscribing hospital areas, however, is that it is practical and objective.

The mechanics of the bisector principles have been handled in a manner which results in the formation of areas that contain populations sufficient to maintain either a community, intermediate, or base hospital. The procedure was adjusted slightly to allow for local area variations in highways, and the existence of large rivers and toll bridges which are barriers to free movement of the people. This method of outlining hospital areas

necessarily cuts across county boundaries, but township lines are followed in all instances in order to obtain the population of the area. Although there is permissive legislation for the construction of general hospitals for all economic groups on a county basis, this study recognizes that it is neither possible nor practical for each county to construct and maintain a hopsital. The irregular areas for general hospital service outlined in this Plan are trade areas which may reasonably be expected to maintain the facility prescribed as adequate to meet the needs of the people in the trade areas.

No institutions of existing or potential significance to the solution of community health problems have been by-passed in this Plan; inclusion of them was almost automatic, because in most instances the existing institutions are located in centers of population which are often the same large communities used in the bisector method. In order to learn the potentialities of existing hospitals with regard to economical and safe operation, expansion and replacement, a superficial evaluation as to fire resistiveness and age of the building was made on all existing structures.

The State Plan conforms to the greatest possible extent with the concepts developed by the State Agency under the guidance of the Advisory Council on Hospitals. The State Plan provides for no hospital facilities of less than (approximately) 50 beds; it recognizes the potentialities for meeting community needs of existing institutions; it allows for a surprisingly regular pattern of distribution of community, intermediate (district) and medical center facilities. The State Plan is considered to be a flexible guide for the construction of general hospitals in accordance with estimated community needs rather than a blueprint to be followed with exactitude. The idea is that the Plan be followed in principle and serve as a point of departure in adjusting for variations peculiar to individual communities. There is no contraindication to amalgamation of adjacent areas in order to provide a larger and better equipped facility if, in the judgment of the local authorities, such consolidation would reasonably assure satisfactory service to the people of the consolidated areas.

With regard to partitioning of the areas outlined by the bisector methods, sub-communities may be created provided that they are of sufficient population to require a construction of 50 or more beds and that the general pattern of regional integration is not seriously disturbed. It is the consensus of the Study group and the Advisory Council that multiple facilities not be developed in areas which may conveniently and more efficiently be served by a joint project.

No attempt has been made to evaluate the potentialities of services of one institution over another in communities where there are several institutions rendering service to a group of people who might, from the clinical standpoint, receive more comprehensive care in a single institution.

General hospital facilities, including nursing units, laboratories, x-ray and other accessory services outlined in detail in the table in Section II have been planned in terms of beds as an arithmetical index to size and completeness of the unit. Inasmuch as The Congress, the Federal Advisory Council on Hospitals and the United States Public Health Service took into consideration the recommendations of experts in the hospital field prior to writing the statute and the regulations governing the provisions of the Hospital Survey and Construction Act, there is reasonable expectancy that following these Federal Regulations as a minimum policy is not only required if projects are to be eligible for Federal grants-in-aid for construction, but is also sound. Deviations from the minimum regulations appear in the Illinois Plan in accordance with varying local circumstances; such variations are well within the frame of the specifications of the Federal requirements.

The Hospital Survey and Construction Act requires that general hospital beds be distributed in accordance with the application of three ratios which vary as follows on the basis of the population of the service areas:

Rural—(less than about 25,000 population)—2.5 beds per thousand

Intermediate—(25,000 to 100,000 population)—4.0 beds per thousand

Base—(100,000* or more population) —4.5 beds per thousand

This method of distribution of beds allows for the development of the concept of gradients of hospitals discussed in the early part[1] of this report.

Since the overall State ratio for general hospitals in Illinois is 4.5 beds per thousand population (on the basis of the 1945 estimated civilian population), the distribution of beds by the three ratios indicated above results in a pool of unallocated beds. The unallocated bed pool is the difference between the total number of beds calculated for the entire State population (at 4.5 per thousand) and the sum of the total number of beds calculated for each of the individual areas. The excess beds in the areas having a higher ratio than 4.5 per thousand do not figure in the calculation of the State pool. The pool beds provide a means of adding beds in areas of special need and particularly for establishing medical centers throughout the State to equitably distribute complete service.

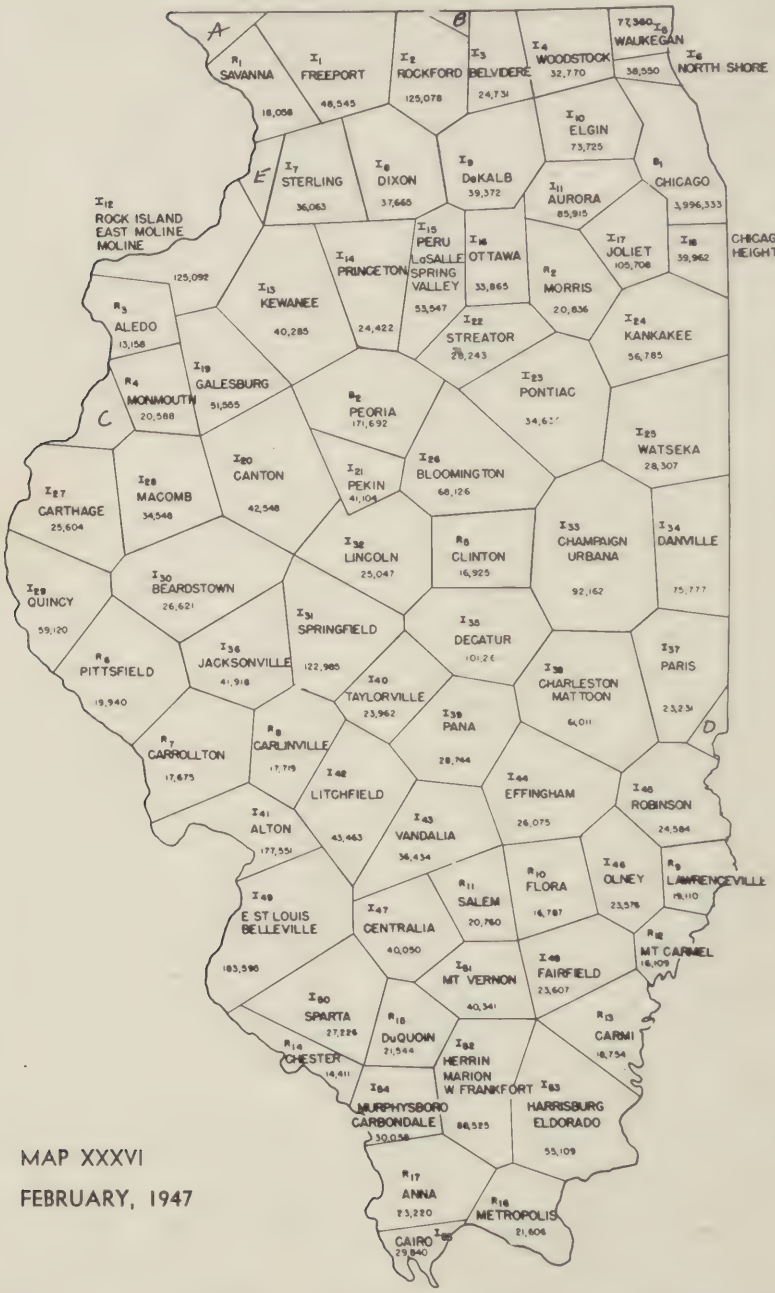
The Master Plan is not concerned with specific details for the development of training programs for the members of the medical, nursing and technical groups because these can best be handled by the educators. It is, however, to the interest of all parties concerned that the Plan provide for groupings of facilities that will insofar as practicable enhance the opportunity for approved educational programs. The bisector plan coupled with regional integration of facilities along the lines suggested by Maps XXXVI and XXXVII provides for development of facilities which can be coordinated in their service and teaching aspects in line with modern trends in each of these fields.

To meet the needs for general hospital facilities in Illinois, the State Plan provides:

1. That general hospitals offer complete service on a gradient, according to size of hospital.
2. That general hospitals of varying sizes be coordinated with each other, with special hospital facilities such as those for tuberculosis and neuromental disease, and with public health facilities.
3. That general hospitals be distributed on an area basis considering the following factors:
   a. Use of the bisector methods, applied where possible to communities of 10,000 or more population, and to smaller communities where necessary.
   b. Adherence to township lines for purpose of obtaining population data.
   c. Consideration of existing trade areas.
   d. Inclusion of existing acceptable institutions.
4. That flexibility be allowed regarding local desires and needs both in the direction of possible consolidation of contiguous areas to provide larger facilities, and in the establishment of sub-communities where these are of sufficient population to require separate facilities in accordance with provisions of the Plan for minimum size of general hospitals.
5. That bed needs of the population be calculated on the basis of the following:
   a. Over-all State ratio for general hospital beds, 4.5 per 1000 poulation.
   b. Beds per 1000 population according to the following ratios:
      Rural areas—less than 25,000 population —2.5 beds per 1000 population.
      Intermediate—25,000 to 100,000 population—4.0 beds per 1000 population
      Base—100,000 or more population —4.5 beds per 1000 population

* See Appendix
[1] Section I

General Hospital Service Areas In Illinois



MAP XXXVI

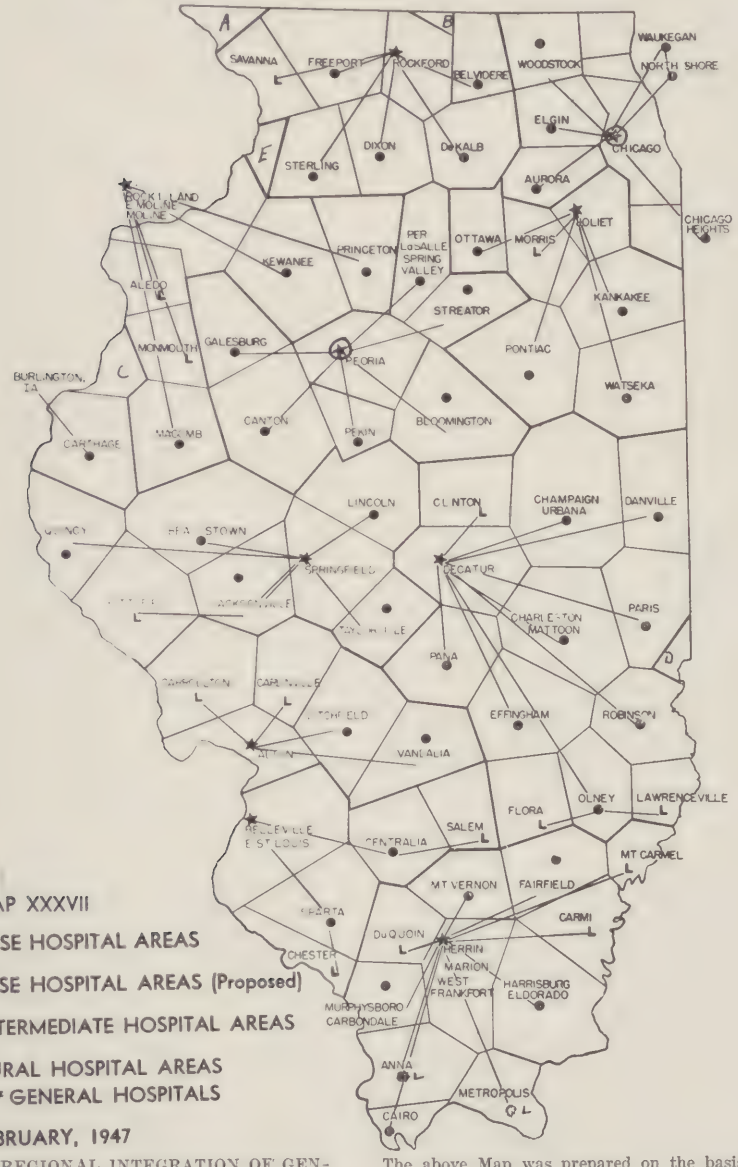
FEBRUARY, 1947

MAP XXXVI. GENERAL HOSPITAL SERVICE AREAS IN ILLINOIS. This Map has been developed according to the principles of the bisector method outlined in the preceding narrative. The identity of each of the irregular areas developed through this method is designated by the name of the largest city or cities and also by a code number indicating the type of area and the number arbitrarily assigned to it. The letters used are B for base area, I for Intermediate area and R for rural area. The remaining item contained in each hospital community is the population of the area based on the 1945 estimated civilian population which is the most recent population data certified by the U. S. Bureau of Census. The use of this figure is required under the regulations pursuant to Public Law 725. The number of acute general hospital beds is primarily dependent upon the population of the area and the area ratio. The detail calculations of the number of needed beds for each area is shown in Form PHS-7 (pp 27-36 inc., of 64), and the areas are analyzed in greater detail in the area analyses which follow.

This map includes as intermediate areas eight sizeable communities which should have medical (base) center hospitals on the basis of their population (about 100,000) but, due to an inconsistency in the Federal Regulations governing the definition of base hospital areas, it was not possible at the time this map was made to list these communities as base areas and to apply the 4.5 beds per thousand ratio allowable for base areas. When this discrepancy was brought to the attention of the Federal Hospital Council, appropriate amendment was made in the Federal Regulations.

c. Provision for a pool of unallocated beds, resulting from the fact that the total beds allocated to areas in (b) above do not equal the total beds allocated to the entire State in (a). These unallocated beds can be used in areas of special need, particularly in equitably distributing medical centers.

REGIONAL INTEGRATION OF HOSPITALS,* ILLINOIS



MAP XXXVII. REGIONAL INTEGRATION OF GENERAL HOSPITALS IN ILLINOIS. The concept of hospitals as inter-related facilities affording exchange of services and information calls for a systematic location of hospitals on a gradient basis. Inasmuch as the relatively stable conditions of population distribution, major transportation arteries, the location of medical centers and the existence of topographical barriers has created social patterns that do not readily lend themselves to diagramatic interpretation, the problem of developing regional integration of general hospitals is indeed complex. The Federal Regulations which define variable ratios for general hospital beds in the rural, intermediate and base areas presuppose the referral of cases from the rural area to the intermediate and in turn from the intermediate to the base hospitals, or directly from one facility to the other. While this integration of hospitals provides for the referral of cases to the larger facilities, it also provides for the diffusion of the services of highly specialized personnel and equipment from the larger hospitals to the smaller.

The above Map was prepared on the basis of all data available to the Study Group who are mindful of the occult local factors both objective and subjective which may alter such a plan for integration. Although this Map gives maximal consideration to the time-mileage determinent in this projected scheme for integration it is generally recognized that people will go great distances for exceptional types of care. Too close a comparison of this plan with existing coordination between facilities should be avoided because of the expansion and construction of new and additional facilities in various areas of the State and their attendant influence upon relocation of medical and allied personnel.

This Map goes one step farther than the preceding Map in that it indicates certain intermediate areas as proposed base hospital areas because these areas contain the population required to support a base facility and give reasonable promise of the fulfillment of a certain amount of resident and intern training as required in the Federal Regulations governing designation of a base hospital area.

(See Appendix).

d. Bed-death ratio of 0.6 per hospital death per year.

e. Percentage occupancy statistics and bed occupancy rate. These show the greater efficiency of the larger over the smaller hospital.

f. Modification of the calculations in accordance with local circumstances vitally affecting the need for and use of general hospital beds.

6. That the size of a general hospital be determined according to the needs of the community by employment of the following considerations:

a. All general hospitals shall be of sufficient size to operate efficiently and to offer comprehensive services to the entire area served.

b. The minimum size shall be approximately 50 beds.

c. The maximum, except for teaching centers, 500 beds.

d. The total needs of a community shall not be dissipated among several institutions approaching the minimum size for efficient and economical operation and provision of complete service. For example, an area needing 100 beds would be urged to concentrate these in one institution in preference to establishing two 50 bed hospitals.

e. General hospitals should be accessible to the population served. The bisector method used provides that no part of an area served by a general hospital will be more than 25 miles distant, and the concentration of population of the area will be much closer.

B. TUBERCULOSIS HOSPITALS

Nationwide experience of several decades with the incidence of tuberculosis and the amount of hospitalization required per case have led to general agreement on the factor which can be applied in estimating the number of beds needed for this care. This factor, like the bed-death ratio for estimating needed general hospital beds, is related to the number of deaths from tuberculosis. It is 2.5 beds for each annual death. The Hospital Survey and Construction Act (Public Law 725) refers to this ratio applied to the average annual deaths from tuberculosis in the State for the five year period 1940-1944.

The number of beds needed for adequate tuberculosis care in Illinois is calculated on two bases in each of which the 2.5 beds per average annual death ratio is used: (1) excluding deaths in neuropsychiatric and penal institutions, and (2) including deaths from tuberculosis in these institutions. The two methods of calculation are used because it is not clearly expressed in the Federal Regulations that deaths from tuberculosis occurring in the neuropsychiatric and penal institutions should be excluded in determining the over-all State need. Calculations by the two methods, as indicated in the accompanying tables, result in a disproportionate discrepancy in the number of needed beds. This significant difference between the two estimates of needed beds results from the fact that there is a relatively large number of deaths from tuberculosis in our State neuro-mental institutions. This higher death rate from tuberculosis is due to the fact that there is a higher case incidence than in the population at large. Isolation in neuro-mental institutions is difficult to control because there is lack of cooperation on the part of the patients and the institutions are very crowded. Inasmuch as the tuberculosis facilities in these institutions for separate population groups are not available for general public use, the number of deaths due to tuberculosis in these institutions should not be included in calculating the number of beds needed for the general population. Table XXXVIII shows needed beds for care of tuberculosis calculated according to the above ratio and excluding the State institution aspect of the problem. A similiar calculation, revealed in Table XXXIX shows the number of needed beds based on the total number of deaths due to tuberculosis in both the general population and in the State institutions. The recommended solution to the problem of providing facilities for

tuberculosis is to calculate the needed tuberculosis beds for the population at large on the basis of the death rate in this group, and to provide for neuro-mental patients who also have tuberculosis by prorating separate tuberculosis hospital units from the number of beds allowable for the State mental hospitals. This avoids the duplication of beds which would necessarily follow from calculating the needs of the same group twice.

Bearing in mind the maldistribution of facilities and the lack of sufficient beds in these facilities, the problem of providing adequate State-wide coverage for treatment of tuberculosis may be clarified by dividing the State into five sections: (1) the Lake-McHenry County area, (2) the Kane-DuPage-Cook County area, (3) Northern Illinois, (4) Central Illinois, and (5) Southern Illinois. Map XXXVIII, Five Areas of Illinois and Tuberculosis Needs, shows these regions of the State together with relevant calculations.

The bed deficits and excesses as calculated by area do not follow from any attempt to appraise the safety or adequacy of existing institutions. It is generally recognized that there are some existing tuberculosis hospitals which are of long-standing frame structure and of a size insufficient to support a full-time clinical director and an active therapy and rehabilitation program. A good many of these institutions are, however, filling a very important need and are located in sections of the State wherein the tuberculosis problem is rapidly declining so that by the time a construction program to replace these facilities could be effected, tuberculosis in these areas would no longer be a significant public health problem. Furthermore, the fact that these buildings are not entirely fire-resistive occasions no great concern because they are sufficiently safe to meet the fire marshal's standards and in addition very few if any tuberculosis patients housed therein are absolutely bedridden.

A survey by the Tuberculosis Control Division of the United States Public Health Service shows that approximately 7.4 per cent of the reported beds in the United States were obsolete. If this same per cent is applied to Illinois, the adjusted deficiency of tuberculosis beds is 3,454. The Five Area map reveals that the greatest needs for tuberculosis facilities occur in the metropolitan Chicago area and in southern Illinois. The State Plan, therefore, gives high priority to construction projects for tuberculosis facilities in these areas.

The appropriation of $6,700,000 for the construction of three State operated tuberculosis sanatoria, one in Cook County and two downstate, is the initial step in decreasing the over-all bed deficit. Providing for the elevation of the pegged levy in the Chicago area will furnish additional funds for the care of tuberculosis patients in existing institutions in Chicago. This recent action on the part of the General Assembly has its roots in plans which antedate the Hospital Survey and Plan and has profound influence on what may be planned for the State. This recently enacted legislation is an all-out attempt to expedite control of the tuberculosis case problem and after stabilization of the operation of each of the programs created, the tuberculosis problem in Illinois may be reconsidered.

In the light of the foregoing recent action and the ideals of adequate tuberculosis service as discussed in Section I, the State Plan provides the following:

1. That no attempt be made to locate any additional facilities in any part of the State except the southern third and the Cook County area.

2. That institutions constructed in these areas be of 200 to 300 bed capacity.

3. That the sanatoria so established be under the direction of well-trained tuberculosis specialists chosen under a non-political merit system, and that provision be made for inclusion in these institutions of a good out- patient department, facilities for adequate bed rest and graduated exercise and that there be a well planned and directed program of education. The sanatoria should contain equipment necessary for all forms of collapse therapy and should provide for major and minor surgical procedures,

bronchoscopy, laboratory for bacteriological study including microscopic examinations of the sputum, cultures and animal inoculations in addition to regular laboratory services. The institutions should include facilities for x-ray and fluoroscopy in accordance with the recommendations of the National Tuberculosis Association. The institutions should provide for programs of rehabilitation and occupational therapy for both in-patients and out-patients.

4. Tuberculosis sanatoria should not be located in remote rural areas but should be near the centers of population and be convenient to general hospitals.

5. That tuberculosis departments or wings or buildings a part of a general hospital be developed in those communities which have teaching hospitals provided that the size of such a specialized department be at least ten beds. General hospitals, however, should not plan for permanent sanatorium care unless the facility can comply with National Tuberculosis Association requirements for such care.

6. That smaller general hospitals give necessary short-term care to patients with tuberculosis in the communicable disease wards.

7. That all general hospitals establish tuberculosis casefinding procedures among the staff and patients, and that all patients in the out-patient department as well as those admitted to the hospital proper receive an x-ray of the chest as part of their general physical examination. Such hospitals should institute a policy of x-rays of the chest at regular intervals of the staff and employees.

8. Removal of the residence requirement for admission to county sanatoria to make possible the establishment of sanatoria of recommended size and to fully utilize existing beds.

9. Joint construction of sanatoria by contiguous counties under the provisions of the County Sanitarium Law for such combined construction (reference Chapter 34, Section 163, Smith-Hurd Illinois Annotated Statutes 1946.)

The steps which have already been taken to meet the needs for construction and operation of tuberculosis institutions supplemented by the application of the knowledge regarding the medical care of tuberculosis should result in a sharp diminution in the extent of the tuberculosis problem. The nature of the disease and the steps that have already been taken have made advisable the consideration of this problem on the Statewide basis rather than on a local community basis as was done with general hospitals. Consideration of the problem on this broad geographical basis encourages equal consideration of the problem on its broad social basis.

FIVE AREAS OF ILLINOIS AND TUBERCULOSIS NEEDS

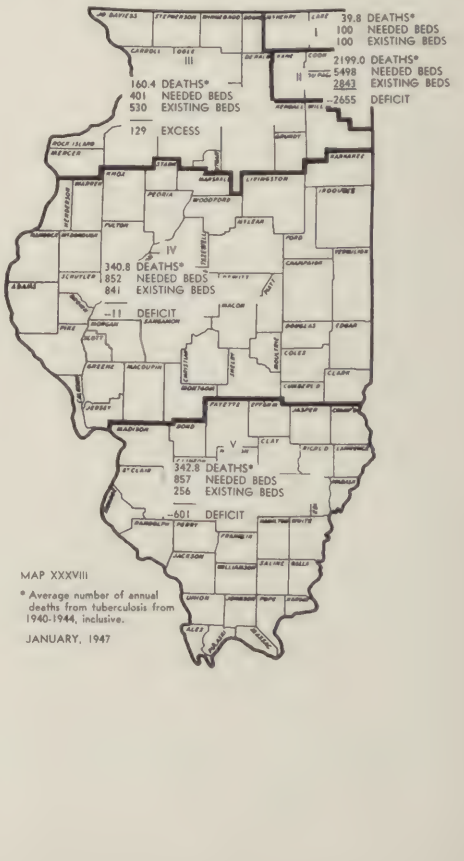


TABLE XXXVIII. NEEDED TUBERCULOSIS BEDS BASED ON TUBERCULOSIS MORTALITY.

(Excluding deaths in State Mental and Penal Institutions)

State and Counties	Total Deaths 1941-1944	5 Year Average	Beds Needed
ILLINOIS	15,416	3,083.2	7,708
Adams	68	13.6	34
Alexander	120	24.00	60
Bond	15	3.0	8
Boone	12	2.4	6
Brown	7	1.4	4
Bureau	31	6.2	16
Calhoun	8	1.6	4
Carroll	6	1.2	3
Cass	18	3.6	9
Champaign	55	11.0	28
Christian	46	9.2	23
Clark	8	1.6	4
Clay	36	7.2	18
Clinton	23	4.6	12
Coles	36	7.2	18
Cook	10,755	2,151.0	5,378
Crawford	33	6.6	16
Cumberland	14	2.8	7
DeKalb	22	4.4	11
DeWitt	20	4.0	10
Douglas	23	4.6	12
DuPage	110	22.0	55
Edgar	26	5.2	13
Edwards	10	2.0	5
Effingham	23	4.6	12
Fayette	24	4.8	12
Ford	10	2.0	5
Franklin	96	19.2	48
Fulton	34	6.8	17
Gallatin	21	4.2	10
Greene	23	4.6	12
Grundy	22	4.4	11
Hamilton	32	6.4	16
Hancock	17	3.4	8
Hardin	35	7.0	18
Henderson	5	1.0	2
Henry	36	7.2	18
Iroquois	20	4.0	10
Jackson	53	10.6	26
Jasper	15	3.0	8
Jefferson	47	9.4	24
Jersey	11	2.2	6
JoDaviess	13	2.6	6
Johnson	18	3.6	9
Kane	130	26.0	65
Kankakee	44	8.8	22
Kendall	4	0.8	2
Knox	49	9.8	24
Lake	179	35.8	90
LaSalle	125	25.0	62
Lawrence	14	2.8	7
Lee	19	3.8	10
Livingston	26	5.2	13
Logan	34	6.8	17
McDonough	39	7.8	20
McHenry	20	4.0	10
McLean	73	14.6	36
Macon	77	15.4	38
Macoupin	42	8.4	21
Madison	236	47.2	118
Marion	83	16.6	42
Marshall	6	1.2	3
Mason	12	2.4	6
Massac	62	12.4	31
Menard	15	3.0	8
Mercer	8	1.6	4
Monroe	13	2.6	6
Montgomery	47	9.4	24
Morgan	53	10.6	26
Moultrie	15	3.0	8
Ogle	23	4.6	12
Peoria	220	44.0	110
Perry	17	3.4	8
Piatt	9	1.8	4
Pike	29	5.8	14
Pope	17	3.4	8
Pulaski	49	9.8	24
Putnam	5	1.0	2
Randolph	36	7.2	18
Richland	21	4.2	10
Rock Island	116	23.2	58
St. Clair	288	57.6	144
Saline	72	14.4	36
Sangamon	182	36.4	91
Schuyler	11	2.2	6
Scott	10	2.0	5
Shelby	30	6.0	15
Stark	9	1.8	4
Stephenson	24	4.8	12
Tazewell	48	9.6	24
Union	25	5.0	12
Vermilion	139	27.8	70
Wabash	24	4.8	12
Warren	19	3.8	10
Washington	12	2.4	6
Wayne	29	5.8	14
White	33	6.6	16
Whiteside	26	5.2	13
Will	182	36.4	91
Williamson	86	17.2	43
Winnebago	129	25.8	64
Woodford	14	2.8	7

Source: Illinois Department of Public Health Division of Vital Statistics and Records

TABLE XXXIX. NEEDED TUBERCULOSIS BEDS BASED ON TUBERCULOSIS MORTALITY INCLUDING DEATHS IN STATE MENTAL AND PENAL INSTITUTIONS

State and Counties	Total Deaths 1941-1944	5 Year Average	Beds Needed
ILLINOIS	16,971	3,394.2	8,486
Adams	68	13.6	34
Alexander	120	24.0	60
Bond	15	3.0	8
Boone	12	2.4	6
Brown	7	1.4	4
Bureau	31	6.2	16
Calhoun	8	1.6	4
Carroll	6	1.2	3
Cass	18	3.6	9
Champaign	55	11.0	28
Christian	46	9.2	23
Clark	8	1.6	4
Clay	36	7.2	18
Clinton	23	4.6	12
Coles	36	7.2	18
Cook	10,992	2,198.4	5,496
Crawford	33	6.6	16
Cumberland	14	2.8	7
DeKalb	22	4.4	11
DeWitt	20	4.0	10
Douglas	23	4.6	12
DuPage	110	22.0	55
Edgar	26	5.2	13
Edwards	10	2.0	5
Effingham	23	4.6	12
Fayette	26	5.2	13
Ford	10	2.0	5
Franklin	96	19.2	48
Fulton	34	6.8	17
Gallatin	21	4.2	10
Greene	23	4.6	12
Grundy	22	4.4	11
Hamilton	32	6.4	16
Hancock	17	3.4	8
Hardin	35	7.0	18
Henderson	5	1.0	2
Henry	36	7.2	18
Iroquois	20	4.0	10
Jackson	53	10.6	26
Jasper	15	3.0	8
Jefferson	47	9.4	24
Jersey	11	2.2	6
JoDaviess	13	2.6	6
Johnson	18	3.6	9
Kane	287	57.4	144

TABLE XXXIX.—Concluded

State and Counties	Total Deaths 1941-1944	5 Year Average	Beds Needed
Kankakee	544	108.8	272
Kendall	4	0.8	2
Knox	49	9.6	24
Lake	179	35.8	90
LaSalle	125	25.0	62
Lawrence	14	2.8	7
Lee	150	30.0	75
Livingston	51	10.2	26
Logan	104	20.8	52
McDonough	39	7.8	20
McHenry	20	4.0	10
McLean	73	14.6	36
Macon	77	15.4	38
Macoupin	42	8.4	21
Madison	295	59.0	148
Marion	83	16.6	42
Marshall	6	1.2	3
Mason	12	2.4	6
Massac	62	12.4	31
Menard	15	3.0	8
Mercer	8	1.6	4
Monroe	13	2.6	6
Montgomery	47	9.4	24
Morgan	123	24.6	62
Moultrie	15	3.0	8
Ogle	23	4.6	12
Peoria	312	62.4	156
Perry	17	3.4	8
Piatt	9	1.8	4
Pike	29	5.8	14
Pope	17	3.4	8
Pulaski	49	9.8	24
Putnam	5	1.0	2
Randolph	60	12.0	30
Richland	21	4.2	10
Rock Island	190	38.0	95
St. Clair	288	57.6	144
Saline	72	14.4	36
Sangamon	182	36.4	91
Schuyler	11	2.2	6
Scott	10	2.0	5
Shelby	30	6.0	15
Stark	9	1.8	4
Stephenson	24	4.8	12
Tazewell	48	9.6	24
Union	129	25.8	64
Vermilion	139	27.8	70
Wabash	24	4.8	12
Warren	19	3.8	10
Washington	12	2.4	6
Wayne	29	5.8	14
White	33	6.6	16
Whiteside	26	5.2	13
Will	192	38.4	96
Williamson	86	17.2	43
Winnebago	129	25.8	64
Woodford	14	2.8	7

C. NEURO-MENTAL HOSPITALS

In planning for facilities needed for the care of the mentally ill it must be borne in mind that the problem and the needs at this time are twofold:

1. Facilities for the long-term or permanent care of thousands of mentally ill not amenable to treatment. These are the large State-constructed and State-operated institutions.
2. Facilities for preventive psychiatry and early diagnosis on both an in-patient and out-patient basis, to be provided either in connection with the State-operated institution, special institutions, or as sections of general hospitals.

Since 1847, the State of Illinois has been caring for mental patients and has been confronted with an ever-increasing case load. The rate of admissions exceeds the rate of discharges and the bulk of those cases admitted remain for the rest of their natural lifetime. Inasmuch as the long-term care of the mentally ill has been assumed as a State responsibility, it is important at this time to indicate that the existing facilities, built for 21,154 patients, are operating with a case load of 32,447. That this condition is clearly recognized by the Department of public Welfare, the administrating agency of the State institutions, is reflected in Tables XL, XLI, and XLII.

Steps have already been taken by the Department of Public Welfare to ameliorate the present conditions. Progress to be made in the near future has been signalled by the appropriation of the Sixty-fifth General Assembly, which in the Act making appropriations for certain additional ordinary, contingent and distributive expenses of State government provided:

"For acquisition of land and interests in land for a site for a new mental institution in Cook County area, to be selected in the northern part of the State by the Director of The Department of Public Welfare, including all necessary costs and charges incident thereto ..... $ 212,500

PERMANENT IMPROVEMENTS:

"Construction work for a new mental institution in the northern part of the State to relieve the present over-crowded conditions in State welfare institutions, including plans and specifications therefor and all necessary costs and charges in connection therewith 1,487,500

At Alton State Hospital..	1,275,000
At Anna State Hospital..	1,966,050
At Chicago State Hospital	1,912,500
At East Moline State Hospital	297,500

At Elgin State Hospital..	882,500
At Jacksonville State Hospital	425,000
At Kankakee State Hospital	2,700,000
At Manteno State Hospital	500,000
At Peoria State Hospital	1,685,000
At Veteran's Rehabilitation Center—Chicago ..	425,000
TOTAL	$13,768.550''

A norm of 5 beds per 1,000 population has, through experience, gained acceptance as a measure of need for neuropsychiatric patients. Public Law 725 recognizes this ratio. According to this norm and the 1945 estimated civilian population, Illinois should have 37,739 beds. This need is in sharp contrast to facilities currently available. To what extent it is advisable to meet this need through construction of additional State facilities and to what extent a portion of the problem can be handled in neuropsychiatric hospitals and psychiatry sections of general hospitals is undeterminable at this time. The recommendation has been made that general hospitals allow 10 per cent of their total bed capacity for facilities for psychiatry, but in view of the scarcity of personnel in most areas of the State, this recommendation at present is impractical. In addition, the validity of this estimated need for psychiatric beds in general hospitals awaits confirmation through representative experience.

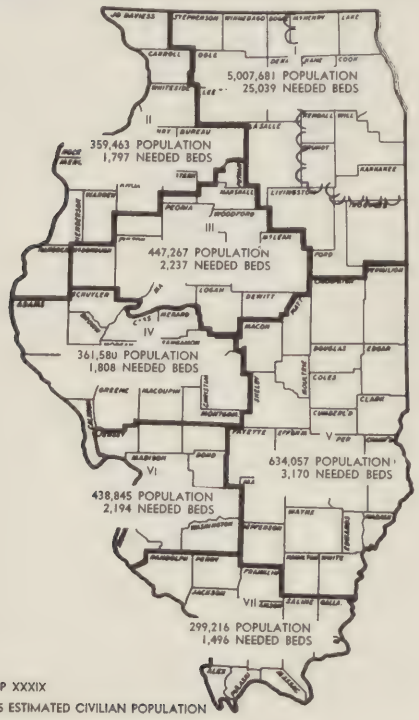
The analysis of existing facilities shows that there are a few general hospitals in Illinois which at the time of the Survey contained small neuro-mental units. The percentage occupancy of the neuro-mental beds in these general hospitals is not available as the hospitals involved were unable to furnish data on percentage occupancy by departments.

The belief that early diagnosis and prompt treatment of the mentally ill will diminish the need for long-term or permanent care poses the interesting challenge to provide for such care in general and psychiatric hospitals widely distributed throughout the State. Establishment of such facilities which would help to remove the stigma attached to seeking care in State institutions, and which would encourage use of the facilities early in mental illness must, however, take due cognizance of the paucity of specialized personnel and their current concentration in the metropolitan areas.

To fulfill the needs as currently understood, the Plan provides:

1. That there be expansion and new construction of State mental hospitals to reduce the present overcrowding.
2. That new institutions be limited in size to a maximum of 3,000 beds, be located in centers of population, and in proximity to general hospitals.
3. The recommendation that admissions to State hospitals for the mentally ill be restricted to those patients requiring mental treatment or restrictive care. Patients with physical disabilities only should not be sent to State mental hospitals. (The committee of the 65th General Assembly to investigate conditions in the State mental hospitals reported that 10 per cent of all inmates were not mentally ill but had obtained admission on basis of social needs.)
4. The recommendation that a more complete study be made of the mental conditions of persons before admission to a State hospital. This recommendation is made with the full realization that it is difficult to pass judgment on certain aged people who are admitted with the diagnosis of senile dementia.
5. That out-patient clinics with adequate staffs be developed to furnish diagnosis and treatment for persons with early mental aberrations who through such treatment would not require care in a State hospital.
6. That psychiatric units be established in general hospitals of the larger size categories (possibly 250 beds and over) for diagnosis and early treatment. This recommendation anticipates that patients requiring long hospitalization would be referred to mental institutions.

BEDS NEEDED FOR CARE OF NEURO-PSYCHIATRIC PATIENTS (5 BEDS PER 1,000 POPULATION*)



MAP XXXIX. BEDS NEEDED FOR CARE OF NEUROPSYCHIATRIC PATIENTS, illustrates the bed needs for neuro-mental patients throughout the State by applying the ratio of 5 beds per thousand to the population of the described areas. The bed capacity of existing State mental hospitals is not applied to this map because the present distribution of State mental hospitals is such that these institutions must admit patients, irrespective of their residence, and does not indicate accurately the need of particular areas. Comparison of existing and needed beds may be made on this plane by referring to Section II C. The irregularly outlined area within Area I contains the State mental hospitals at Elgin, Kankakee, Manteno and Chicago which now serve the metropolitan Chicago area, in addition to the counties within the heavily bordered area.

This area-arranged map is not intended to be a plan for constructing mental hospitals to provide care in the described areas: rather, it is intended to show gross needs throughout the State in a graphic manner.

7. That all facilities be sufficiently well staffed so that patients who have any potentiality of recovery or improvement might have full advantage of the accumulated knowledge in the medical and allied fields.

8. That a State mental health plan be developed so that the benefits of the National Mental Health Act be available to the people of Illinois.

9. That close study be made of the operation of existing psychiatric hospitals and psychiatry units of general hospitals in order to ascertain the wisdom of expanding this type of facility at a later date.

TABLE XL. OVERCROWDING IN STATE HOSPITALS FOR MENTAL PATIENTS, ILLINOIS—1946

State Hospital	Population 11/30/46	Bed Capacity*	Overcrowding	Per Cent
Alton	1,786	1,084	702	64.8
Anna	2,220	1,538	682	44.3
Chicago	4,648	2,757	1,891	68.6
East Moline	2,145	1,538	607	39.5
Elgin	5,266	3,037	2,229	73.4
Jacksonville	3,131	1,953	1,178	60.3
Kankakee	3,974	2,393	1,581	66.1
Manteno	6,574	5,031	1,543	30.7
Peoria	2,606	1,726	880	51.0
Total	32,350	21,057	11,293	53.6
Neuropsychiatric Institute	72	72		
Veteran's' Rehabilitation Center	25	25		
Grand Total	32,447	21,154	11,293	53.6

These figures exclude Illinois Security Hospital with its 355 beds restricted for the criminally insane.

*Bed Capacity is the actual *available bed space* based on a survey made by Illinois Department of Public Health dated September 6, 1946 using minimum standards allowing 75 square feet bed space per patient.

TABLE XLI. NEEDED BEDS CALCULATED ON THE BASIS OF PATIENTS IN STATE HOSPITALS ON JUNE 30, 1946

Area	Patients from Area in Institutions	Capacity	Deficit	
			Number	Per Cent
Total State	32,664	21,057	11,607	55.1
Alton	1,570	1,084	486	44.8
Anna	1,374	1,538	—164	10.7
East Moline	1,467	1,538	—71	4.6
Jacksonville	1,756	1,953	—197	—10.1
Peoria	1,804	1,726	78	4.5
Chicago, Elgin, Kankakee, Manteno	22,527	13,218	9,309	70.4
Central-Southeastern	2,166		2,166	100.0

TABLE XLII. HOSPITAL BED CONSTRUCTION REQUESTED BY ILLINOIS WELFARE DEPARTMENT FOR THE MENTAL HOSPITALS FOR 65th BIENNIUM (1947-1949)

(Omitting institutions for feebleminded, Lincoln and Dixon, and institution for criminally insane, Illinois Security Hospital).

State Hospital	New Institutions	T. B. Beds	Acute Hospital Beds	Residential Beds	Total
General Office	9,000				9,000
Alton		500	100	300	900
Anna			100	100	200
Chicago			200		200
East Moline			200	50	250
Elgin			200	190	390
Jacksonville			100	200	300
Kankakee		850	200		1,050
Manteno			200		200
Peoria		100	200	100	400
Total	9,000	1,450	1,500	940	12,890
Cost	$92,650,000	$14,500,000	$15,000,000	$4,700,000	$126,850,000

The figures were calculated on the basis of the present overcrowding of 11,293 beds and the annual increase of total patient population of 1000 patients per year for the years of 1947 to 1949—(the time necessary to complete the construction).

D. FACILITIES FOR LONG-TERM AND CONVALESCENT PATIENTS

Any plan for provision of facilities to meet the needs of those persons afflicted with long-term illnesses resulting from chronic diseases or protracted convalescence must be based on the fact that there are varying amounts of care and treatment necessary for patients in the long-term illness group. Despite the numerous studies in this country and abroad on the large and heterogeneous problem of meeting the needs of the chronically ill, a reliable ratio of beds or facilities such as those determined for acute general hospitals, tuberculosis hospitals, neuromental hospitals and public health facilities, has not as yet been attained. The Commission on the Care of Chronically Ill Persons, in its second interim report (May, 1947) states that "the studies of this Commission show that there is a deficiency in beds for this group of chronic invalids ranging from 23,500 to a more probable figure of 31,600." The opinion is that there is an even larger number of persons, probably as many as 118,000, in the State of Illinois who are afflicted with some kind of chronic disease, but that only 23,500 to 31,600 require some measure of in-bed care. The report does not grade the group of 23,500 —31,600 with regard to the kind of in-bed care required on the basis of the extent or classification of the disease or the possibility of therapeutic response.

Depending upon the extent of the chronic illness and the kind and seriousness of the degenerative disease, the following types of facilities are believed to be necessary for adequate care of this group of our people:

1. Hospital facilities for care of those patients requiring diagnosis and intensive medical treatment, and for research studies. Such hospitals should be completely equipped as general hospitals or might be developed in conjunction with general hospitals as a unit or wing. This type of facility should be designed and equipped and have grounds which will be conducive to a patient's existence beyond the confines of the individual bed or bedroom. This type of hospital should provide facilities for recreational and occupational therapy and rehabilitation programs.

2. Institutions providing skilled nursing under medical supervision but not equipped with laboratories, x-ray departments, surgeries and other elaborate facilities for intensive medical treatment. This is the category of institutions commonly referred to as nursing homes, and includes the county homes as converted according to the provisions of the Rennick-Laughlin Bills. This category of institutions should be closely affiliated with general hospitals.

3. Homes.

   (a) The patient's own home or the home of a member of his family with care as necessary rendered by friends, relatives or visiting nurses.

   (b) Homes for the aged; there has been considerable experience with such institutions under private, fraternal or religious management.

   (c) Boarding homes or residence hotels.

Public Law 725, the Hospital Survey and Construction Act, provides for the construction of facilities for the chronically ill in terms of hospital facilities only, and does not allow consideration for grants-in-aid for development of nursing homes or commercial homes. The Act specifies that states may program construction of chronic disease hospital facilities to the extent of 2 beds per 1,000 population. On the basis of the 1945 estimated civilian population (7,584,-109), the Illinois State Plan, therefore, may allocate a total of 15,096 hospital beds for the long-term convalescent and chronically ill patient. The structural details set up in Appendix A are intended to direct the construction of allowable beds in line with commonly accepted standards of hospital facilities.

Of the facilities analyzed in the Survey, there were 388 acceptable hospital beds for chronic and long-term convalescent patients. The deficit is, therefore, 14,708 hospital beds; of this number the State Plan allocates 3,724 as chronic units of existing general hospitals and, in line with the recommendations of the Commission on the Care of the Chronically Ill Persons, allocates 200 beds to a research and educational institution in Chicago. The remainder of the allowable beds under the Federal ratio, 10,784, are being held as a book figure for allocation on a geographical area basis pursuant to the accumulation of more evidence on the expected use of such facilities in local communities. As is the case with tuberculosis and neuro-mental facilities, planning for special chronic disease hospitals must fully consider the likelihood of optimum use of these facilities as anticipated from study of the available personnel. In view of the fact that the Federal grants-in-aid for hospital construction are limited to an amount that will scarcely permit substantial progress toward construction of needed general hospitals, especially in rural areas, and in view of the fact that few communities are ready to assume their full responsibility in medical, nursing, medical-social and physical rehabilitation programs for persons afflicted with long-term illness, the Illinois Planning Group does not recommend at this time a pattern for statewide distribution of the total number of allowable beds and facilities for long-term patients. As local communities are ready to consider this aspect of provision of facilities of at least 50 beds but not to exceed 200 beds, consideration of all relevant factors will be made by the designated State Agency and its Advisory Council on Hospitals.

Recognizing that the information currently available does not allow the development of sound comprehensive plans for facilities for the care of the chronically ill, the Illinois Planning Group at this time make the following recommendations:

1. That there be constructed a special hospital in affiliation with a teaching institution in order to emphasize both the education of physicians and research in the degenerative diseases. Such institution should not be of less than 100 bed capacity nor more than 200 beds.

2. That general hospitals in metropolitan areas develop, in special wings or in separate buildings having a liaison relationship with the general hospital, facilities for long-term convalescent and chronically ill patients requiring intensive medical care. The appointments of such wing or institutions should conform to the type of illness being cared for with emphasis on occupational, rehabilitative and recreational therapy. The size of these special departments or wings should be not less than 10 beds and separate construction should be not less than 50 nor more than 200 beds. Consideration for grants-in-aid from

Federal funds will follow in the same priority rating as listed for general hospital construction provided that the community gives some promise of a staff interested in an active program for the long-term cases.

3. That the community be educated to use general hospital facilities for diagnosis and intensive treatment only. The corollary which follows this recommendation is that the admission policies of general hospitals be such that those cases not amenable to treatment and requiring only nursing home services or custodial care not be permitted to remain in general hospitals indefinitely, because such use of general hospitals tends to be cumulative and also diminishes the efficiency and morale of the institution as a place for care of acute illnesses.

4. That all substantial county homes be converted as provided in the Rennick-Laughlin Bills to desirable facilities for care of the chronically ill with a liaison relationship with a general hospital.

5. That expansion of nursing home facilities and improvement of services through a broad educational program be developed in line with the licensing program. These homes should have occupational, recreational, and rehabilitative programs and should develop a liaison relationship with community general hospitals.

6. That visting nurse services be extended to each county of the State in order to facilitate home care of the chronically ill or long-term convalescent.

7. That there be State payment for care of residents afflicted with chronic disease or permanent impairment who are financially unable to pay for such care.

8. That housing authorities give attention to developing apartments and accommodations for the aged as part of the normal community which will comprise the housing project.

9. That there be continued study of the problem of long-term convalescence, chronic illness, degenerative diseases and geriatrics with the end in view of establishing a ratio of facilities to population, obtaining more accurate estimates of the possibilities of rehabilitation of those persons, afflicted with various diseases and at varying stages of such diseases, and for consideration of a demonstration project including the foregoing recommendations and the recommendations of the Commission on the Care of the Chronically Ill.

E. LOCAL HEALTH FACILITIES

The blueprint of local health services of the State of Illinois which was mutually agreed upon by the Illinois Department of Public Health and the Committee on Local Health Units of the American Public Health Association consists of 27 single county health departments, 22 bi-county health departments, 9 tri-county health departments and 1 quadri-county health department. The enactment in 1943 of the Searcy-Clabaugh County Health Department Law provides the mechanism for carrying out the ideas in this blueprint. This legislation enables any county or group of adjacent counties to establish and maintain a health department by either of two methods: (1) by the passage of a resolution to this effect by the Board of Supervisors or County Commissioners, or (2) by vote of the people at a general election. In the first instance, a tax may not be levied for the support of a health department which means that a health department so established would need to be financed from the general fund of the county. When established by the second means, a health department can be financed by a tax levy of not to exceed one-half mill on the dollar, which is in excess of the statutory limit. The law wisely provides that two or more adjacent counties may band together to form a multiple-county health department. This is a desirable provision because experience has shown that health departments generally cannot be economically operated with population of less than 40,000. Since a number of the counties in Illinois are relatively sparsely populated, this provision enables these counties to receive full

time public health services by joining together to form multiple-county health departments.

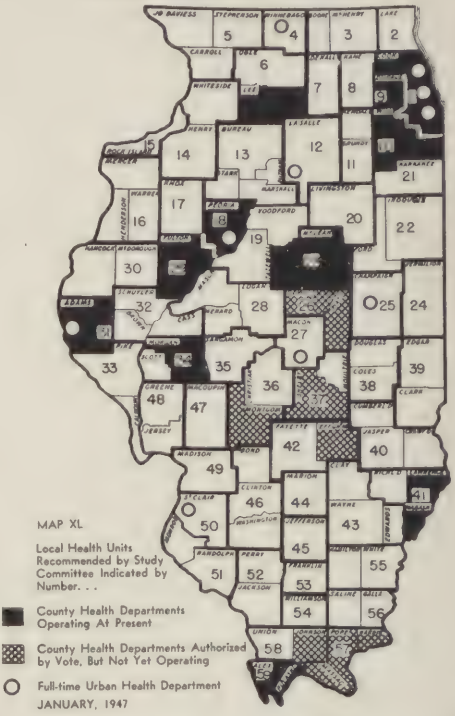
County health departments shall according to the law be managed by Boards of Health appointed by the chairman of the Boards of Supervisors of the counties involved and must have included in their membership representatives of the medical and dental professions as well as lay persons having a known interest in public health work. The Board of Health of the county or mutiple-county health department selects the staff of the health department, prescribes the powers and duties of these persons, and through the county health officer and staff of the department enforces all State and local laws, rules and regulations regarding the preservation of health throughout the health jurisdiction.

The blueprint developed for Illinois is based upon a thorough consideration of all existing concepts of adequate local health service and is at no point in conflict with the specifications of Public Law 725. The population served by the groupings involved in the creation of 58 separate areas resulted from local analyses, and promises to provide the most workable solution to this local health problem. Although it is recognized that multiple county health departments will not come into existence in Illinois in exact conformity with this plan, it is recommended that the plan serve as a guiding principle in the establishment of such health departments. Map *XL* (and companion table) illustrates the county and multiple county health departments recommended under this plan, the county and multiple county health departments which are functioning at this time, and those which have been authorized and will begin to operate within the next several months.

Table XLIV shows the population, income, assessed valuation, number of general hospital beds and number of practicing physicians in each of the proposed units.

The study which was made by the Sub-Committee on Local Health Units (of the American Public Health Association) indicates that one dollar per capita is an

THE DEVELOPING PLAN FOR COUNTY HEALTH DEPARTMENTS IN ILLINOIS



amount sufficient to provide minimum public health services. The efficacy of the local health departments currently in existence in the State and those that may be expected to follow from the present trend in development of adequate local health services will be dependent upon the proper staffing of these units and the provision of proper working facilities for their personnel. To make sure that no county in the State of Illinois may lack for full-time public health services because of insufficient taxable wealth, the Illinois Department of Public Health has developed a subsidy plan which will make it possible for every county in the State to have at least one dollar per capita for the purpose of providing financial support for a county or multiple-county health department.

Subsidy for County Health Departments

Subsidy from State and Federal sources will be granted upon request in accordance with the following:

1. The County must maintain a full-time health department in accordance

with the provisions of "An Act in relation to the establishment and maintenance of county and multiple county health departments."

2. State and Federal funds may not be used to conserve local funds.

3. An annual public health plan must be submitted prior to the beginning of each fiscal year describing briefly previous public health programs which will be continued and new programs which will be initiated during the next fiscal year.

4. The county health department shall submit such reports as are required by the Director of the Illinois Department of Public Health.

5. The professional personnel of the county health department will meet minimum qualifications as established by the Illinois Department of Public Health.

6. The county health department will use a record system approved by the Illinois Department of Public Health. That portion of the record system which deals with finances shall be consistent with recognized accounting principles and shall adequately reflect information to furnish necessary reports that may be required by the State or Federal agencies. Having met these requirements, subsidy will be granted upon request to counties maintaining a full-time health department under the provisions of "An Act in relation to the establishment and maintenance of county and multiple county health departments" as follows:

TABLE XLIII. COUNTIES IN EACH UNIT OF LOCAL HEALTH JURISDICTION

Unit 1
1. Cook (Chicago, Cicero, Evanston Oak Park)

Unit 2
1. Lake

Unit 3
1. Boone
2. McHenry

Unit 4
1. Winnebago (Rockford)

Unit 5
1. Carroll
2. Jo Daviess
3. Stephenson

Unit 6
1. Lee
2. Ogle

Unit 7
1. DeKalb

Unit 8
1. Kane

Unit 9
1. Du Page

Unit 10
1. Will

Unit 11
1. Grundy
2. Kendall

Unit 12
1. LaSalle

Unit 13
1. Bureau
2. Marshall
3. Putnam
4. Stark

Unit 14
1. Henry
2. Whiteside

Unit 15
1. Rock Island

Unit 16
1. Henderson
2. Mercer
3. Warren

Unit 17
1. Knox

Unit 18
1. Peoria (Peoria)

Unit 19
1. Tazewell
2. Woodford

Unit 20
1. Livingston

Unit 21
1. Kankakee

Unit 22
1. Ford
2. Iroquois

Unit 23
1. McLean

Unit 24
1. Vermillion

Unit 25
1. Champaign

Unit 26
1. DeWitt
2. Piatt

Unit 27
1. Macon (Decatur)

Unit 28
1. Logan
2. Mason
3. Menard

Unit 29
1. Fulton

Unit 30
1. Hancock
2. McDonough

Unit 31
1. Adams

Unit 32
1. Brown
2. Cass
3. Schuyler

Unit 33
1. Calhoun
2. Pike

Unit 34
1. Morgan
2. Scott

Unit 35
1. Sangamon (Springfield)

Unit 36
1. Christian
2. Montgomery

Unit 37
1. Moultrie
2. Shelby

Unit 38
1. Coles
2. Douglas

Unit 39
1. Clark
2. Edgar

Unit 40
1. Crawford
2. Cumberland
3. Jasper

Unit 41
1. Lawrence
2. Richland
3. Wabash

Unit 42
1. Effingham
2. Fayette

Unit 43
1. Clay
2. Edwards
3. Wayne

Unit 44
1. Marion

Unit 45
1. Jefferson

Unit 46
1. Bond
2. Clinton
3. Washington

Unit 47
1. Macoupin

Unit 48
1. Green
2. Jersey

Unit 49
1. Madison

Unit 50
1. St. Clair (E. St. Louis

Unit 51
1. Monroe
2. Randolph

Unit 52
1. Jackson
2. Perry

Unit 53
1. Franklin

Unit 54
1. Williamson

Unit 55
1. Hamilton
2. White

Unit 56
1. Gallatin
2. Saline

Unit 57
1. Hardin
2. Massac
3. Pope

Unit 58
1. Johnson
2. Union

Unit 59
1. Alexander
2. Pulaski

Note: Cities of 50,000 population or over are given in parentheses.
Source: Local Health Units for the Nation, Commonwealth Fund, 1945.

TABLE XLIV. LOCAL HEALTH UNITS FOR ILLINOIS

Population, Area, Spendable Income, Assessed Valuation, General Hospital Beds, and Practicing Physicians—59 Suggested Units of Local Health Jurisdiction

Unit and number of counties*	Population 1940 (thousands)	Area (square miles)	Spendable income per capita 1941	Assessed valuation per capita 1941	General Hospital beds, 1940		Practicing physicians, 1941	
					Number	Per 1,000 population	Number	Persons per physician
1 (1)	4,063.3	933	$987	$ 589	19,804	4.9	7,118	571
2 (1)	121.1	455	816	634	869	7.2	140	865
3 (2)	52.5	913	765	1,023	147	2.8	52	1,010
4 (1)	121.2	529	859	640	451	3.7	167	726
5 (3)	78.6	1,635	665	937	205	2.6	78	1,008
6 (2)	64.5	1,498	632	1,104	103	1.6	66	977
7 (1)	34.4	638	800	1,048	149	4.3	38	905
8 (1)	130.2	527	912	652	663	5.1	165	789
9 (1)	103.5	345	680	640	221	2.1	116	892
10 (1)	114.2	844	705	630	334	2.9	120	952
11 (2)	29.5	757	505	1,061	40	1.4	30	983
12 (1)	97.8	1,146	707	841	380	3.9	98	998
13 (4)	65.0	1,740	531	971	144	2.2	63	1,032
14 (2)	87.1	1,503	641	932	218	2.5	86	1,013
15 (1)	113.3	424	761	588	421	3.7	116	977
16 (3)	48.0	1,462	544	1,109	92	1.9	51	941
17 (1)	52.3	711	783	1,046	182	3.5	69	758
18 (1)	153.4	636	923	739	726	4.7	224	685
19 (2)	77.5	175	531	900	62	0.8	65	1,192
20 (1)	38.8	1,043	541	1,112	247	6.4	38	1,021
21 (1)	60.9	668	639	525	145	2.4	77	791
22 (2)	47.5	1,621	568	1,251	57	1.2	58	819
23 (1)	73.9	1,191	864	892	390	5.3	95	778
24 (1)	86.8	921	730	636	321	3.7	99	877
25 (1)	70.6	1,043	862	771	410	5.8	125	565
26 (2)	32.9	866	552	1,217	28	0.9	42	783
27 (1)	84.7	585	861	711	422	5.0	112	756
28 (3)	55.5	1,489	561	1,166	112	2.0	64	867
29 (1)	44.6	884	490	798	60	1.3	51	875
30 (2)	53.2	1,368	523	1,013	153	2.9	64	831
31 (1)	65.2	842	694	932	312	4.8	78	836
32 (3)	35 9	1,100	496	829	63	1.8	33	1,088
33 (2)	33.5	1,042	403	587			26	1,288
34 (2)	44.6	825	590	860	154	3.5	55	811
35 (1)	117.9	876	582	725	742	6.3	149	791
36 (2)	73.1	1,389	585	751	260	3.6	66	1,108
37 (2)	39.8	1,110	385	857	42	1.1	39	1,021
38 (2)	56.1	942	667	679	125	2.2	72	779
39 (2)	43.2	1,114	508	758	62	1.4	43	1,005
40 (3)	46.4	1,314	397	547	23	0.5	39	1,190
41 (3)	51.9	935	558	633	70	1.3	58	895
42 (2)	51.2	1,240	571	861	117	2.3	46	1,113
43 (3)	50.1	1,433	384	529			39	1,285
44 (1)	48.0	569	805	843	70	1.5	45	1,067
45 (1)	34.4	603	555	411	30	0.9	24	1,433
46 (3)	53.2	1,432	402	794	27	0.5	42	1,267
47 (1)	46.3	860	425	495	26	0.6	34	1,362
48 (2)	33.9	882	426	726	24	0.7	31	1,094
49 (1)	149.3	737	643	578	396	2.7	128	1,166
50 (1)	166.9	663	633	731	565	3.4	172	970
51 (2)	46.4	976	459	622	25	0.5	38	1,221
52 (2)	61.3	1,039	535	435	136	2.2	48	1,277
53 (1)	53.1	445	469	295	116	2.2	37	1,435
54 (1)	51.4	449	472	269	50	1.0	42	1,224
55 (2)	33.5	962	355	527	9	0.3	24	1,396
56 (2)	49.5	737	455	322	88	1.8	40	1,238
57 (3)	30.7	810	284	435	29	0.9	24	1,279
58 (2)	32.2	751	351	422	15	0.5	23	1,400
59 (2)	41.4	416	386	416	100	2.4	26	1,592
Total (102)	7,897.2	56,043	$824	$ 663	31,232	4.0	11,208	705
Range among units	29.5 to 4,063.3	345 to 1,740	$284 to $987	$269 to $1,251	None to 19,804	None to 7.2	23 to 7,118	1,592 to 565

*Figure in parentheses indicates the number of counties in the unit.
Source: Local Health Units for the Nation, Commonwealth Fund, 1945.

1. One dollar will be provided by the Illinois Department of Public Health for each $4.00 of funds from local sources budgeted and used for the operation of the health department or 20¢ per capita* of population of the health jurisdiction, whichever is the *lesser* of the two amounts.

*Based on population in accordance with last Federal Census (1940)

2. In counties having per capita* wealth† less than $1800, an additional subsidy on the basis of special need will be provided. In order to qualify for this subsidy, it is necessary that the maximum levy as provided in "An Act in relation to the establishment of county and multiple county health departments" be made. In case the amount realized from the levy plus the subsidy provided in Paragraph No. 1 does not equal $1.00 per capita of population of the health jurisdiction, an additional amount sufficient to equal $1.00 per capita will be provided by the Illinois Department of Public Health.

The finances offered under this subsidy plan are subject to availability funds and, in case of deficiency, the funds will be prorated among all participating counties. Table XLV lists the salient data by county.

A Subsidy Plan For City, Village, and Local District Health Departments

(Applicable only to Health Departments serving populations less than 500,000 persons)

In order that full-time health departments may be more adequately supported in cities, villages and local districts, subsidy from State and Federal sources will be granted upon request in accordance with the following:

1. The city, village, or local district must maintain a health department in accordance with the provisions of the statutes of the State of Illinois.

2. State and Federal funds may not be used to conserve local funds.

3. The health department must be under the administration of a medical health officer on a full-time basis.

4. Professional personnel must be qualified by training and experience for the positions which they occupy and with the exception of consultants and clinicians, must be employed on a full-time basis.

5. An annual public health plan must be submitted prior to the beginning of each fiscal year, describing briefly previous public health programs which will be continued and new programs will be established during the next fiscal year.

*Based on population in accordance with last Federal Census (1940)

†Based on equalized valuation 1943 (Illinois Tax Commission-unpublished) and population 1940 Federal Census.

TABLE XLV. FINANCIAL SUPPORT FOR COUNTY AND MULTIPLE COUNTY HEALTH DEPARTMENTS

	County	(1) Population 1940 census	(2) Assessed valuation Full value (In thousands)	(3) Revenue 0 5 Mill Levy	TO PRODUCE BUDGET OF $1.00 PER CAPITA (4) From Local Taxes	(5) Local Tax Levy Necessary (Mills)	(6) Regular Subsidy (State & Fed.)	(7) Special need Subsidy (State & Fed.)
1	Adams	65,229	$154,193	$ 77,096	$52,183	$0.34	$13,046	
2	Alexander	25,496	28,243	14,121	14,121	0.50	3,530	7,845
3	Bond	14,540	33,025	16,512	11,632	0.35	2,908	
4	Boone	15,202	45,649	22,824	12,162	0.27	3,040	
5	Brown	8,053	16,021	8,010	6,442	0.40	1,611	
6	Bureau	37,600	139,571	69,785	30,080	0.22	7,520	
7	Calhoun	8,207	8,702	4,351	4,351	0.50	1,087	2,769
8	Carroll	17,987	59,730	29,865	14,390	0.24	3,597	
9	Cass	16,425	34,244	17,122	13,140	0.38	3,285	
10	Champaign	70,578	267,886	133,943	56,462	0.21	14,116	
11	Christian	38,564	102,742	51,371	30,851	0.30	7,713	
12	Clark	18,842	39,498	19,749	15,074	0.38	3,768	
13	Clay	18,947	35,210	17,605	15,158	0.43	3,789	
14	Clinton	22,912	48,634	24,317	18,330	0.37	4,582	
15	Coles	38,470	94,004	47,002	30,776	0.33	7,694	
16	Cook	4,063,342	8,955,871	4,477,935	3,250,674	0.36	812,668	
17	Crawford	21,294	42,793	21,397	17,035	0.40	4,259	
18	Cumberland	11,698	25,523	12,762	9,358	0.37	2,340	
19	DeKalb	34,388	133,653	66,827	27,510	0.21	6,878	
20	DeWitt	18,244	69,307	34,654	14,595	0.21	3,649	
21	Douglas	17,590	72,543	36,272	14,072	0.19	3,518	
22	DuPage	103,480	380,196	190,098	82,784	0.22	20,696	
23	Edgar	24,430	95,423	47,712	19,544	0.21	4,886	
24	Edwards	8,974	19,836	9,918	7,179	0.36	1,795	
25	Effingham	22,034	38,760	19,380	17,627	0.45	4,407	
26	Fayette	29,159	89,582	44,791	23,327	0.26	5,832	

TABLE XLV. FINANCIAL SUPPORT FOR COUNTY AND MULTIPLE COUNTY HEALTH DEPARTMENTS
(Continued)

County	(1) Population 1940 census	(2) Assessed valuation Full value (In thousands)	(3) Revenue 0.5 Mill Levy	TO PRODUCE BUDGET OF $1.00 PER CAPITA			
				(4) From Local Taxes	(5) Local Tax Levy Necessary (Mills)	(6) Regular Subsidy (State & Fed.)	(7) Special need Subsidy (State & Fed.)
27 Ford	15,007	73,456	36,723	12,006	0.16	3,001	
28 Franklin	53,137	82,211	41,106	41,106	0.50	10,276	1,755
29 Fulton	44,627	105,043	52,522	35,702	0.34	8,925	
30 Gallatin	11,414	20,783	10,392	9,131	0.44	2,283	
31 Greene	20,292	37,127	18,564	16,234	0.44	4,058	
32 Grundy	18,398	78,985	39,493	14,718	0.19	3,680	
33 Hamilton	13,454	35,992	17,996	10,763	0.30	2,691	
34 Hancock	29,297	82,401	41,201	23,438	0.28	5,859	
35 Hardin	7,759	10,918	5,459	5,459	0.50	1,364	936
36 Henderson	8,949	37,560	18,780	7,159	0.19	1,790	
37 Henry	43,793	137,651	68,826	35,038	0.25	8,760	
38 Iroquois	32,496	146,378	73,189	25,997	0.18	6,499	
39 Jackson	37,920	56,545	28,273	28,273	0.50	7,068	2,579
40 Jasper	13,431	28,193	14,097	10,745	0.38	2,686	
41 Jefferson	34,375	73,301	36,651	27,500	0.38	6,875	
42 Jersey	13,636	25,953	12,977	10,909	0.42	2,727	
43 JoDaviess	19,989	47,797	23,899	15,991	0.33	3,998	
44 Johnson	10,727	12,467	6,234	6,234	0.50	1,558	2,935
45 Kane	130,206	390,898	195,449	104,165	0.27	26,041	
46 Kankakee	60,877	162,334	81,167	48,702	0.30	12,175	
47 Kendall	11,105	48,987	24,494	8,884	0.18	2,221	
48 Knox	52,250	153,503	76,752	41,800	0.27	10,450	
49 LaSalle	97,801	320,770	160,385	78,241	0.24	19,560	
50 Lake	121,094	468,334	234,167	96,875	0.21	4,219	
51 Lawrence	21,075	41,895	20,948	16,860	0.40	4,215	
52 Lee	34,604	127,757	63,879	27,683	0.22	6,921	
53 Livingston	38,838	164,908	82,454	31,070	0.19	7,768	
54 Logan	29,438	99,384	49,692	23,550	0.24	5,888	
55 McDonough	26,944	89,128	44,564	21,555	0.24	5,389	
56 McHenry	37,311	153,290	76,645	29,849	0.19	7,462	
57 McLean	73,930	273,785	136,893	59,144	0.22	14,786	
58 Macon	84,693	258,929	129,465	67,754	0.26	16,939	
59 Macoupin	46,304	89,590	44,795	37,043	0.41	9,261	
60 Madison	149,349	450,987	225,494	119,479	0.26	29,870	
61 Marion	47,989	100,518	50,259	38,391	0.38	9,598	
62 Marshall	13,179	50,838	25,269	10,543	0.21	2,636	
63 Mason	15,358	42,312	21,156	12,286	0.29	3,072	
64 Massac	14,937	15,098	7,549	7,549	0.50	1,887	5,507
65 Menard	10,663	40,134	20,067	8,530	0.21	2,133	
66 Mercer	17,701	51,889	25,945	14,161	0.27	3,540	
67 Monroe	12,754	32,801	16,401	10,203	0.31	2,551	
68 Montgomery	34,499	76,156	38,078	27,599	0.36	6,900	
69 Morgan	36,378	79,000	39,500	29,102	0.37	7,276	
70 Moultrie	13,477	52,884	26,442	10,782	0.20	2,695	
71 Ogle	29,869	121,210	60,605	23,895	0.20	5,974	
72 Peoria	153,374	462,623	231,312	122,699	0.27	30,675	
73 Perry	23,438	34,746	17,373	17,373	0.50	4,343	1,722
74 Piatt	14,659	148,979	74,490	11,727	0.08	2,932	
75 Pike	25,340	61,550	30,775	20,272	0.33	5,068	
76 Pope	7,999	6,862	3,431	3,431	0.50	857	3,711
77 Pulaski	15,875	10,206	5,103	5,103	0.50	1,275	9,497
78 Putnam	5,289	15,844	7,922	4,231	0.27	1,058	
79 Randolph	33,608	52,783	26,392	26,392	0.50	6,598	618
80 Richland	17,137	36,978	18,489	13,710	0.37	3,427	
81 Rock Island	113,323	255,252	127,626	90,658	0.36	22,665	
82 St Clair	166,899	432,298	216,149	133,519	0.31	33,380	
83 Saline	38,066	48,578	24,289	24,289	0.50	6,072	7,705
84 Sangamon	117,912	294,014	147,007	94,330	0.32	23,582	
85 Schuyler	11,430	24,894	12,447	9,144	0.37	2,286	
86 Scott	8,176	16,623	8,312	6,541	0.39	1,635	
87 Shelby	26,290	68,255	34,128	21,032	0.31	5,258	
88 Stark	8,881	34,116	17,058	7,105	0.21	1,776	
89 Stephenson	40,646	116,089	58,045	32,517	0.28	8,129	
90 Tazewell	58,362	201,339	100,670	46,690	0.23	11,672	
91 Union	21,528	24,812	12,406	12,406	0.50	3,101	6,021
92 Vermilion	86,791	219,057	109,529	69,433	0.32	17,358	
93 Wabash	13,724	34,511	17,256	10,979	0.32	2,745	
94 Warren	21,286	81,705	40,853	17,029	0.21	4,257	
95 Washington	15,801	34,670	17,335	12,641	0.36	3,160	
96 Wayne	22,092	54,589	27,295	17,674	0.32	4,418	
97 White	20,027	76,293	38,147	16,022	0.21	4,005	
98 Whiteside	43,338	123,131	61,566	34,670	0.28	8,668	
99 Will	114,210	351,370	175,685	91,368	0.26	22,842	
100 Williamson	51,427	49,777	24,889	24,889	0.50	6,224	20,314
101 Winnebago	121,178	384,913	192,457	96,942	0.25	24,236	
102 Woodford	19,124	86,320	43,160	15,299	0.18	3,825	

6. The health department shall submit such reports as are required by the Director of the Illinois Department of Public Health.

7. The health department will use a record system approved by the Illinois Department of Public Health. That portion of the record system which deals with finances shall be consistent with recognized accounting principles and shall adequately reflect information to furnish necessary reports that may be required by the State and Federal Agencies.

Having met these requirements, subsidy will be granted upon request as follows:

One dollar will be provided by the Illinois Department of Public Health for each four dollars of funds from local sources budgeted and used for the operation of the Health Department or 20¢ per capita* or population of the health jurisdiction, whichever is the *lesser* of the two amounts.

It will of course be necessary for a county or a group of adjacent counties to have established a health department before any consideration can be given for Federal grants-in-aid as provided by the Hospital Survey and Construction Act for construction of health department facilities. Communities which anticipate assistance in hospital construction may with advantage consider simultaneously the local community hospital and local health service problems. Inasmuch as the needs for the hospital construction per se are so great, and it is possible for local health departments to operate in improvised quarters, no plan for priority construction of local health facilities is presented at this time. Application for Federal aid in construction of such facilities will, however, be accepted by the State agency and favorable consideration be given to those areas which (1) have established by law a local health department (2) are chiefly rural areas (3) plan the local health facilities in proximity to the local hospital.

*Based on population according to the last Federal census.

NOTE: The finances offered under the subsidy plan are subject to the availability of funds and in case of deficiency the funds will be prorated among all participating health departments.

F. COORDINATION OF HOSPITALS

The Federal Regulations pursuant to the Hospital Survey and Construction Act wisely specify that the States plan for a coordinated system of hospitals. This system is defined as an interrelated network of general[1] hospitals throughout a State in which one or more base hospitals provide district hospitals and the latter in turn provide rural and other small hospitals with such services relative to diagnosis, treatment, medical research and teaching as cannot be provided by the smaller hospitals individually.

For the general and the existing special categories of hospitals and for public health units the State Plan for Hospitals provides a structural arrangement which is believed to be conducive to coordination of services. Although favorable location and planning of constructions is fundamental to the attainment of coordination of services, the ultimate success depends upon the development of appropriate operational policies. It is to be expected that these policies will be forthcoming through suggestions and demonstrations by professional organizations and voluntary and official agencies. It is further to be expected that their stimuli to cooperation in the provision of health services will be felt and acted upon by an informed democratic public.

G. PROCEDURE FOR DEVELOPING PRIORITY RATING OF AREAS FOR GENERAL HOSPITALS

In order to facilitate the equitable distribution of grant-in-aid funds available for construction of general hospitals, a system of priorities was developed. The system developed in Illinois gives full consideration to the factors outlined in the Federal Regulations, namely, the relative need for beds in an area, the utilization of existing beds, and the provision of services for people living in rural areas and areas with relatively small financial resources and the concept that the general hospital

[1] By general hospital is inferred the complete facility including in addition to the acute general unit, the provisions for all other types of hospital patients.

afford complete services. In calculating area priorities the following statistical procedures were employed, at the suggestion and with the able assistance of O. K. Sagen, Ph.D., Chief, Division of Vital Statistics and Records of the Illinois Department of Public Health.

Priorities were established using the following factors: per cent need met, "ruralness," and financial status. Financial status was established by using per capita assessed valuation, proportion of population benefiting from Illinois Public Aid Commission grants, and per capita buying income. Of primary consideration in developing priorities is the percentage to which the existing acceptable* beds within an area meet the total general hospital bed needs of that area. The first step in the procedure was to divide the areas into the following six groups on the basis of the per cent need met:

1. 0% of need met. (Including both the areas having no hospital beds at all and the areas having only non-acceptable beds.)
2. 1% to 39% of need met.
3. 40% to 59% of need met.
4. 60% to 79% of need met.
5. 80% to 99% of need met.
6. 100% and over of need met.

In addition to this factor and in compliance with the Federal Regulations, the following factors were taken into consideration:

1. Each general hospital area was ranked in terms of the per cent population classified as rural-farm. The number one (1) was assigned to the area with the smallest per cent of rural-farm population.
2. Areas were ranked according to the number of people dependent upon the four major programs of the Illinois Public Aid Commission per 1000 population by assigning the number one (1) to the area having the smallest proportion of people receiving public assistance.
3. The areas were ranked according to the per capita assessed valuation by assigning the number one (1) to the area having the highest per capita assessed valuation (full-value assessment).
4. Areas were ranked according to the per capita buying income by assigning the number (1) to the area having the highest buying income.

Since the areas as developed by the Illinois State Study Group were based upon the bisecting of the distance between the larger communities of the State and since socio-economic data are not obtainable for smaller divisions than counties, the percentage, amount, or rate of the county containing the largest city in each area was used. It is the interpretation of the Illinois State Study Group that according to the form USPHS 13 and the instructions pertaining thereto, additional weight should be added to the per cent of need met factor. This was accomplished first by stratifying the data into the six groups listed above and by using the actual per cent bed deficit rather than the ranking of the per cent of need met in a reciprocal order.

The median was then calculated for the composite rank of the four socio-economic factors plus the per cent bed deficit (100 minus per cent need met). Those areas which had a composite rank of greater than the median of the higher priority group were classified within that higher priority group, and those areas having a rank of less than the median of the next lower priority group were classified within that lower priority group. The following illustration merely serves as an example:

Assume that in priority group B the median of the composite rank was 150. Within that group there could be an area having a rank of greater than 200, which was the median of the priority A group. This area would then be ranked with the priority A group and following the areas normally contained within this group. There could also be within this priority B

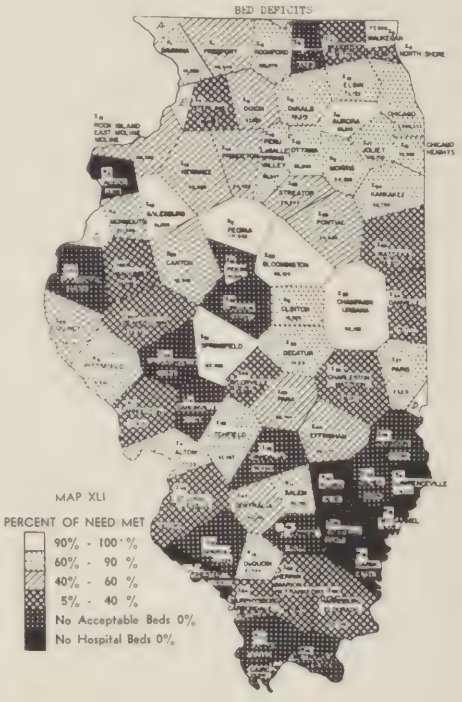
*"Acceptable" as required by Federal Regulations and defined by the State Study Group are beds located in fire resistive buildings of less than fifty years of age.

group an area having a composite rank of less than 100 which was the median for the priority C group. This area would then be ranked within the priority C group in accordance with its rank number.

Consultation with local groups and with hospital planners have verified the logic of this procedure.

The evaluation of the Chicago area (B-1) presents a special problem. Since that area accounts for over one-half the population of the State and yet according to the methods required to be employed in this Study, must be handled as a unit comparable in each of the factors with the other 73 hospital areas of the State, the relative position of this area among the other hospital areas of the State was developed according to the methods defined above. Within this metropolitan area sub-communities for hospitals were assigned priority ratings based solely upon the per cent of need met in the sub-communities. The hospital Survey Group employed this objective method in order that individual communities would have full knowledge of how the priority rating for their areas was calculated.

GENERAL HOSPITAL SERVICE AREAS IN ILLINOIS
MAY, 1947



ILLINOIS STATE HOSPITAL PLAN†
(General Hospitals)

TABLE XLVI. AREA PRIORITIES WITH ESTIMATED COST OF CONSTRUCTION

Priority	Area	Principal City or Town	Total Acceptable Beds*	Total Needed Beds	Per Cent Need Met	Additional Beds Which May Be Constructed (State Plan)	Estimated Total Cost	
							At $10,000 Per Bed	At $15,000 Per Bed
A								
1	R-17	Anna	0	58	0	58	$ 580,000	$ 870,000
2	R-16	Metropolis	0	54	0	54	540,000	810,000
3	R-10	Flora	0	50	0	50	500,000	750,000
4	I-45	Robinson	0	100	0	100	1,000,000	1,500,000
5	I-51	Mt. Vernon (Gen. Hosp.)	0	161	0	161	1,610,000	2,415,000
		State TB Hospital	0	200	0	200	2,000,000	3,000,000
6	I-48	Fairfield	0	100	0	100	1,000,000	1,500,000
7	R- 9	Lawrenceville	0	50	0	50	500,000	750,000
8	I-27	Carthage	0	102	0	102	1,020,000	1,530,000
9	I-55	Cairo	0	119	0	119	1,190,000	1,785,000
10	R- 8	Carlinville	0	50	0	50	500,000	750,000
11	R-14	Chester	0	50	0	50	500,000	750,000
12	I-50	Sparta	0	109	0	109	1,090,000	1,635,000
13	R- 3	Aledo	0	50	0	50	500,000	750,000
14	R-12	Mount Carmel	0	50	0	50	500,000	750,000
15	R-13	Carmi	0	50	0	50	500,000	750,000
16	I-43	Vandalia	0	150	0	150	1,500,000	2,250,000
17	I-46	Olney	0	100	0	100	1,000,000	1,500,000
18	I-36	Jacksonville	0	165	0	165	1,650,000	2,475,000
19	I-32	Lincoln	0	100	0	100	1,000,000	1,500,000
20	I- 3	Belvidere	0	100	0	100	1,000,000	1,500,000
21	R- 7	Carrollton	19	50	38	31	310,000	465,000
22	I-52	Herrin-Marion-W. Frank	20	400	5	380	3,800,000	5,700,000
23	I-53	Harrisburg-Eldorado	35	220	16	185	1,850,000	2,775,000
Total			74	2,633		2,564	$25,640,000	$38,460,000

*Beds in buildings which are not fire resistive, or are over fifty (50) years of age or are in structures not built as hospitals are deleted.

** Rating within the B priority group is at the end of the group because these are urban areas in contrast to the rural areas.

†This table is a composite of several Federal forms which are available in the offices of the State Department of Public Health.

TABLE XLVI.—Concluded

Priority	Area	Principal City or Town	Total Acceptable Beds*	Total Needed Beds	Per Cent Need Met	Additional Beds Which May Be Constructed (State Plan)	Estimated Total Cost	
							At $10,000 Per Bed	At $15,000 Per Bed
B								
1	I-54	Murphysboro-Carbondale	38	120	32	82	$ 820,000	$1,230,000
2	I-30	Beardstown	33	106	31	73	730,000	1,095,000
3	I-40	Taylorville	15	100	15	85	850,000	1,275,000
4	I-28	Macomb	42	150	30	108	1,080,000	1,620,000
5	I-25	Watseka	43	113	38	70	700,000	1,050,000
6	I-38	Mattoon-Charleston	44	244	18	200	2,000,000	3,000,000
7	I-21	Pekin	0	164	0	164	1,640,000	2,460,000
8	I- 7	Sterling	42	150	28	108	1,080,000	1,620,000
9	I-34	Danville	106	303	35	197	1,970,000	2,955,000
10	I-20	Canton	71	170	42	99	990,000	1,485,000
11	I-44	Effingham	50	104	48	54	540,000	810,000
Total			484	1,724		1,240	$12,400,000	$18,600,000
C								
1	I-39	Pana	59	150	49	91	$ 910,000	$1,365,000
2	I-23	Pontiac	60	150	40	90	900,000	1,350,000
3	I-29	Quincy	123	236	52	113	1,130,000	1,695,000
4	I-47	Centralia	65	160	41	95	950,000	1,425,000
5	I-13	Kewanee	82	161	51	79	790,000	1,185,000
6	R- 4	Monmouth	30	51	59	21	210,000	315,000
7	I-49	Belleville-E. St. Louis	291	826	35	535	5,350,000	8,025,000
8	I-14	Princeton	58	100	58	42	420,000	630,000
9	I- 1	Freeport	102	194	53	92	920,000	1,380,000
10	I- 4	Woodstock	24	131	18	107	1,070,000	1,605,000
11	I- 8	Dixon	63	151	42	88	880,000	1,320,000
12	I- 6	North Shore	51	154	33	103	1,030,000	1,545,000
13	R- 6	Pittsfield	39	50	78	11	110,000	165,000
14	I-42	Litchfield	115	174	66	59	590,000	885,000
15	I-37	Paris	75	100	75	25	250,000	375,000
Total			1,237	2,788		1,551	$15,510,000	$23,265,000
D								
1	R-11	Salem	33	52	63	19	$ 190,000	$ 285,000
2	I-24	Kankakee	153	227	67	74	740,000	1,110,000
3	I-41	Alton	470	750	63	280	2,800,000	4,200,000
4	R- 5	Clinton	37	50	74	13	130,000	195,000
5	R- 1	Savanna	36	50	72	14	140,000	210,000
6	R- 2	Morris	40	52	77	12	120,000	180,000
7	I-12	Rock Island-Moline-E. M.	297	563	53	266	2,660,000	3,990,000
8	I-18	Chicago Heights	100	160	62	60	600,000	900,000
9	I- 9	DeKalb	104	157	66	53	530,000	795,000
10	I-22	Streator	66	113	58	47	470,000	705,000
11	I-16	Ottawa	91	135	67	44	440,000	660,000
12	B- 1	Chicago	15,098	19,778	76	4,680	46,800,000	70,200,000
13	I-15	LaSalle-Peru-Spring Val.	155	214	72	59	590,000	885,000
14	I-17	Joliet	348	476	73	128	1,280,000	1,920,000
15	I- 2	Rockford	346	563	61	217	2,170,000	3,255,000
16	R-15	DuQuoin	48	54	89	6	60,000	90,000
Total			17,422	23,394		5,972	$59,720,000	$89,580,000
E								
1	I-35	Decatur	367	458	80	91	$ 910,000	$1,365,000
2	I-19	Galesburg	193	206	94	13	130,000	195,000
3	I-33	Champaign-Urbana	364	372	99	8	80,000	120,000
4	I-10	Elgin	246	295	83	49	490,000	735,000
5	I-26	Bloomington	268	273	98	5	50,000	75,000
6	B- 2	Peoria	714	773	92	59	590,000	885,000
7	I-11	Aurora	336	344	98	8	80,000	120,000
Total			2,488	2,721		233	$2,330,000	$3,495,000
F								
1	I- 5	Waukegan	359	359	100	0		
2	I-31	Springfield	891	891	100	0		
Total			1,250	1,250				
B**	B-1	Cicero	0	283	0	283	$2,830,000	$4,245,000
	B-1	Hinsdale	0	182	0	182	1,820,000	2,730,000
	B-1	Lyons Twp.	0	160	0	160	1,600,000	2,400,000
	B-1	Northwest	0	972	0	972	9,720,000	14,580,000
D	B-1	Berwyn	150	212	71	62	620,000	930,000
	B-1	Blue Island	85	152	56	67	670,000	1,005,000
	B-1	Elmhurst	108	270	40	162	1,620,000	2,430,000
	B-1	Evergreen Park	159	222	72	63	630,000	945,000
	B-1	Harvey	95	221	43	126	1,260,000	1,890,000
	B-1	Oak Park	531	695	76	164	1,640,000	2,460,000
E	B-1	Chicago	13,399	15,867	96	2,468	24,680,000	37,020,000
F	B-1	Evanston	571	542	100+	0(—29)		

TABLE XLVII. CALCULATIONS FOR PRIORITY RATINGS

PRIORITY GROUP A 0 % of Need Met	% Rural-Farm		Per Capita Assessed Valuation		No. on IPAC Rolls /1000 Population		Per Capita Buying Income		Per Cent Bed Deficit	Composite Rank		Per Cent Need Met	Priority Rating
	Per Cent	Rank	Amt.	Rank	Amt.	Rank	Amt.	Rank					
R- 3	48.8	70	2,913	28	41	40	797	61	100	299		0	A 10
R- 9	40.7	62	2,096	59	47	57	903	44	100	322		0	A 7
R-10	46.8	68	2,150	56	43	44	758	63	100	331		0	A 3
I-48	63.5	74	2,769	36	42	41	607	72	100	323		0	A 6
R-12	33.2	48	2,263	55	42	41	863	53	100	297		0	A 11
R-13	46.2	66	3,798	8	45	49	588	73	100	296		0	A 12
R-14	28.7	35	1,610	67	33	31	656	69	100	302		0	A 9
I- 3	34.9	51	2,741	39	22	17	1,101	27	100	234		0	A 17
I-21	18.6	16	3,437	18	20	11	723	66	100	211-B		0	B 7
I-27	46.9	69	2,868	30	51	61	761	62	100	322		0	A 7
I-32	30.9	43	3,538	15	40	39	905	43	100	240		0	A 16
I-36	26.6	29	2,312	51	45	49	1,023	31	100	260		0	A 15
R- 8	27.9	34	2,060	60	46	52	684	68	100	314	Median 302	0	A 8
I-43	51.4	73	3,452	17	46	52	939	41	100	283		0	A 13
I-45	39.4	60	2,104	58	54	63	897	47	100	328		0	A 4
I-46	41.5	63	2,320	50	33	31	974	36	100	280		0	A 14
I-50	23.7	35	1,610	67	33	31	656	69	100	302		0	A 9
I-51	38.0	56	2,299	54	54	63	864	51	100	324		0	A 5
R-16	35.1	52	1,027	73	60	67	559	74	100	366		0	A 2
R-17	46.4	67	1,143	72	52	62	621	71	100	372		0	A 1
I-55	19.5	21	1,240	71	70	72	823	58	100	322		0	A 7
PRIORITY GROUP B Less than 40%													
I-52	20.4	22	1,002	74	78	73	758	63	95	327-A		5	A 19
I-40	30.3	40	2,831	32	49	59	899	45	85	261		15	B 3
I-53	24.9	27	1,452	69	88	74	862	54	84	308-A		16	A 20
I- 4	32.4	45	3,718	11	14	3	1,190	16	82	157-C		18	C 10
I-38	24.2	26	2,541	41	45	49	1,148	21	82	219		18	B 6
I- 7	27.0	31	2,767	37	25	22	976	35	72	197		28	B 8
I-28	36.3	55	3,131	19	47	57	923	42	70	243		30	B 4
I-30	33.2	48	2,031	62	66	69	1,116	26	69	274		31	B 2
I-54	29.0	37	1,655	66	68	70	882	50	68	291		32	B 1
I- 6	7.1	3	3,624	12	12	1	1,156	19	67	102-C		33	C 12
I-34	17.4	15	2,529	45	46	52	1,209	14	65	191	Median 231.5	35	B 9
I-49	7.2	5	2,539	42	43	44	1,198	15	65	171-C		35	C 7
I-25	49.9	72	4,729	1	30	30	853	55	62	220		38	B 5
R- 7	42.5	64	1,812	65	68	70	720	67	62	328-A		38	A 18
PRIORITY GROUP C 40% to 60%													
I-47	27.4	32	2,306	52	43	44	1,287	6	59	193		41	C 4
I- 8	31.9	44	3,886	6	20	11	989	34	58	153		42	C 11
I-20	33.1	47	2,376	49	38	36	802	60	58	250-B		42	B 10
I-23	40.0	61	4,455	2	26	24	834	56	60	203		40	C 2
I-44	42.7	65	2,054	61	26	24	1,034	30	52	232-B		48	B 11
I-39	30.3	40	2,831	32	49	59	899	45	51	227		49	C 1
I-13	29.3	38	3,043	26	29	27	958	40	49	180		51	C 5
I-29	22.2	24	2,447	48	46	52	1,091	28	48	200	Median 180	52	C 3
I- 1	26.7	30	2,536	43	23	20	1,141	22	47	162		53	C 9
I-12	7.4	6	2,109	57	19	10	1,260	9	47	129-D		53	D 7
I-14	35.3	53	4,292	3	27	26	961	39	42	163		58	C 8
I-22	19.3	18	3,054	23	20	11	1,139	23	42	117-D		58	D 9
R- 4	38.2	57	3,571	14	39	38	1,048	29	41	179		59	C 6
PRIORITY GROUP D 60% to 80%													
I- 2	7.5	7	2,852	31	15	4	1,379	4	39	85		61	D 13
I-18	0.4	1	2,023	63	22	17	1,596	1	38	120		62	D 8
I-41	9.6	11	2,759	38	29	27	893	48	37	161		63	D 3
R-11	27.4	32	2,306	52	43	44	1,287	6	37	171		63	D 1
I- 9	30.7	42	3,722	10	21	16	1,166	18	34	120		66	D 8
I-42	33.7	50	2,525	46	64	68	1,017	32	34	230-C		66	C 14
I-16	19.3	18	3,054	23	20	11	1,139	23	33	108	Median 150.5	67	D 10
I-24	18.6	16	2,525	46	24	21	887	49	33	165		67	D 2
R- 1	39.2	59	3,094	22	18	9	962	38	28	156		72	D 5
I-15	19.3	18	3,054	23	20	11	1,139	23	28	103		72	D 12
I-17	12.1	12	3,114	20	16	7	965	37	27	103		73	D 12
R- 5	36.1	54	4,055	5	42	41	1,011	33	26	159		74	D 4
I-37	39.0	58	4,109	4	58	66	864	51	25	204-C		75	C 15
R- 2	33.0	46	3,763	9	17	8	811	59	23	145		77	D 6
R- 6	49.7	71	2,591	40	56	65	744	65	22	263-C		78	C 13
B- 1	0.4	1	2,023	63	22	17	1,596	1	24	106		76	D 11

TABLE XLVII. CALCULATIONS FOR PRIORITY RATINGS—Concluded

PRIORITY GROUP A 0 % of Need Met	% Rural-Farm		Per Capita Assessed Valuation		No. on IPAC Rolls /1000 Population		Per Capita Buying Income		Per Cent Bed Deficit	Com-posite Rank		Per Cent Need Met	Priority Rating
	Per Cent	Rank	Amt.	Rank	Rate	Rank	Amt.	Rank					
PRIORITY GROUP E 80% to 100%													
I-35	13.1	13	2,929	27	38	36	1,179	17	20	113		80	E 1
I-10	8.3	9	2,820	34	15	4	1,214	12	17	76		83	E 4
R-15	30.1	39	1,360	70	46	52	824	57	11	229-D		89	D 14
B- 2	7.5	7	3,098	21	25	22	1,591	3	8	61		92	E 6
I-19	21.4	23	2,873	29	36	35	1,215	11	6	104		94	E 2
I-II	8.3	9	2,820	34	15	4	1,214	12	2	61		98	E 6
I-26	25.6	28	3,807	7	29	27	1,370	5	2	69		98	E 5
I-33	22.9	25	3,463	16	33	31	1,249	10	1	83	Median 79.5	99	E 3
PRIORITY GROUP F Over 100%													
I -5	7.1	3	3,624	12	12	1	1,156	19	0	35		100	F
I-31	13.7	14	2,531	44	44	48	1,285	8	0	114		100	F

APPENDIX A

FEDERAL AND STATE LEGISLATION PERTINENT TO THE HOSPITAL CONSTRUCTION PROGRAM

A—FEDERAL LEGISLATION

[PUBLIC LAW 725—79TH CONGRESS]
[CHAPTER 958—2D SESSION]
[S. 191]

AN ACT

To amend the Public Health Service Act to authorize grants to the States for surveying their hospitals and public health centers and for planning construction of additional facilities, and to authorize grants to assist in such construction.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Hospital Survey and Construction Act".

SEC. 2. The Public Health Service Act (consisting of titles I to V, inclusive, of the Act of July 1, 1944, 58 Stat. 682) is hereby amended by adding at the end thereof the following new title:

"TITLE VI—CONSTRUCTION OF HOSPITALS

"PART A—DECLARATION OF PURPOSE

"SEC. 601. The purpose of this title is to assist the several States—

"(a) to inventory their existing hospitals (as defined in section 631 (e)), to survey the need for construction of hospitals, and to develop programs for construction of such public and other nonprofit hospitals as will, in conjunction with existing facilities, afford the necessary physical facilities for furnishing adequate hospital, clinic, and similar services to all their people; and

"(b) to construct public and other nonprofit hospitals in accordance with such programs.

"PART B—SURVEYS AND PLANNING

"AUTHORIZATION OF APPROPRIATION

"SEC. 611. In order to assist the States in carrying out the purposes of section 601 (a), there is hereby authorized to be appropriated the sum of $3,000,000, to remain available until expended. The sums appropriated under this section shall be used for making payments to States which have submitted, and had approved by the Surgeon General, State applications for funds for carrying out such purposes.

"STATE APPLICATIONS

"SEC. 612. (a) To be approved, a State application for funds for carrying out the purposes of section 601 (a) must—

"(1) designate a single State agency as the sole agency for carrying out such purposes: *Provided*, That after a State plan has been approved under section 623, any further survey or programming functions shall be carried out, pursuant to section 623 (a) (10), by the agency designated in accordance with section 623 (a) (1);

"(2) provide for the designation of a State advisory council, which shall include representatives of nongovernment organizations or groups, and of State agencies, concerned with the operation, construction, or utilization of hospitals, including representatives of the consumers of hospital services selected from among persons familiar with the need for such services in urban or rural areas, to consult with the State agency in carrying out such purposes;

"(3) provide for making an inventory and survey in accordance with section 601 (a) containing all information required by the Surgeon General, and for developing a program in accordance with section 601 (a) and with regulations prescribed under section 622, and

"(4) provide that the State agency will make such reports, in such form and containing such information, as the Surgeon General may from time to time reasonably require, and give the Surgeon General, upon demand, access to the records on which such reports are based.

"(b) The Surgeon General shall approve any application for funds which complies with the provisions of subsection (a).

"ALLOTMENTS TO STATES

"SEC. 613. (a) Each State for which a State application under section 612 has been approved shall be entitled to an allotment of such proportion of any appropriation made pursuant to section 611 as its population bears to the population of all the States, and within such allotment it shall be entitled to receive 33⅓ per centum of its expenditures in carrying out the purposes of section 601 (a) in accordance with its application: *Provided*, That no such allotment to any State shall be less than $10,000. The Surgeon General shall from time to time estimate the sum to which each State will be entitled under this section, during such ensuing period as he may determine, and shall thereupon certify to the Secretary of the Treasury the amount so estimated, reduced or increased, as the case may be, by any sum by which the Surgeon General finds that his estimate for any prior period was greater or less than the amount to which the State was entitled for such period. The Secretary of the Treasury shall thereupon, prior to audit or settlement by the General Accounting Office, pay to the State, at the time or times fixed by the Surgeon General, the amount so certified.

"(b) Any funds paid to a State under this section and not expended for the purposes for which paid shall be repaid to the Treasury of the United States.

"PART C—CONSTRUCTION OF HOSPITALS AND RELATED FACILITIES

"AUTHORIZATION OF APPROPRIATIONS

"SEC. 621. In order to assist the States in carrying out the purposes of section 601 (b) there is hereby authorized to be appropriated for the fiscal year ending June 30, 1947, and for each of the four succeeding fiscal years, the sum of $75,000,000 for the construction of public and other nonprofit hospitals; and there are further authorized to be appropriated for such construction the sums provided in section 624. The sums appropriated pursuant to this section shall be used for making payments to States which have submitted, and had approved by the Surgeon General, State plans for carrying out the purposes of section 601 (b); and for making payments to political subdivisions of, and public or other nonprofit agencies in, such States.

"GENERAL REGULATIONS

"SEC. 622. Within six months after the enactment of this title, the Surgeon General, with the approval of the Federal Hospital Council and the Administrator, shall by general regulation prescribe—

"(a) The number of general hospital beds required to provide adequate hospital services to the people residing in a State, and the general method or methods by which such beds shall be distributed among base areas, intermediate areas, and rural areas: *Provided*, That for the purposes of this title, the total of such beds for any State shall not exceed four and one-half per thousand population, except that in States having less than twelve and more than six persons per square mile the limit shall be five beds per thousand population, and in States having six persons or less per square mile the limit shall be five and one-half beds per thousand population; but if, in any area, (as defined in the regulations) within the State, there are more beds than required by the standards prescribed by the Surgeon General, the excess over such standards may be eliminated in calculating this maximum allowance.

"(b) The number of beds required to provide adequate hospital services for tuberculosis patients, mental patients, and chronic-disease patients in a State, and the general method or methods by which such beds shall be distributed throughout the State: *Provided*, That for the purposes of this title the total number of beds for tuberculous patients shall not exceed two and one-half times the average annual deaths from tuberculosis in the State over the five-year period from 1940 to 1944, inclusive, the total number of beds for mental patients shall not exceed five per thousand population, and the total number of beds for chronic-disease patients shall not exceed two per thousand population.

"(c) The number of public health centers and the general method of distribution of such centers throughout the State, which for the purposes of this title, shall not exceed one per thirty thousand population, except that in States having less than twelve persons per square mile, it shall not exceed one per twenty thousand population.

"(d) The general manner in which the State agency shall determine the priority of projects based on the relative need of different sections of the population and of different areas lacking adequate hospital facilities, giving special consideration to hospitals serving rural communities and areas with relatively small financial resources.

"(e) General standards of construction and equipment for hospitals of different classes and in different types of location.

"(f) That the State plan shall provide for adequate hospital facilities for the people residing in a State without discrimination on account of race, creed, or color, and shall provide for adequate hospital facilities for persons unable to pay therefor. Such regulation may require that before approval of any application for a hospital or addition to a hospital is recommended by a State agency, assurance shall be received by the State from the applicant that (1) such hospital or addition to a hospital will be made available to all persons residing in the territorial area of the applicant, without discrimination on account of race, creed, or color, but an exception shall be made in cases where separate hospital facilities are provided for separate population groups, if the plan makes equitable provision on the basis of need for facilities and services of like quality for each such group; and (2) there will be made available in each such hospital or addition to a hospital a reasonable volume of hospital services to persons unable to pay therefor, but an exception shall be made if such a requirement is not feasible from a financial standpoint.

"(g) General methods of administration of the plan by the designated State agency, subject to the limitations set forth in section 623 (a) (6) and (8).

"STATE PLANS

"SEC. 623. (a) After such regulations have been issued, any State desiring to take advantage of this part may submit a State plan for carrying out the purposes of section 601 (b). Such State plan must—

"(1) designate a single State agency as the sole agency for the administration of the plan, or designate such agency as the sole agency for supervising the administration of the plan;

"(2) contain satisfactory evidence that the State agency designated in accordance with paragraph (1) hereof will have authority to carry out such plan in conformity with this part;

"(3) provide for the designation of a State advisory council which shall include representatives of nongovernment organizations or groups, and of State agencies, concerned with the operation,

construction, or utilization of hospitals, including representatives of the consumers of hospital services selected from among persons familiar with the need for such services in urban or rural areas, to consult with the State agency in carrying out such plans;

"(4) set forth a hospital construction program (A) which is based on a Statewide inventory of existing hospitals and survey of need; (B) which conforms with the regulations prescribed by the Surgeon General under section 622 (a), (b), and (c); (C) which, in the case of a State which has developed a program under part B of this title, conforms to the program so developed except for any modification required in order to comply with regulations prescribed pursuant to section 622 (a), (b), and (c), and except for any modification recommended by the State agency designated pursuant to paragraph (1) of this subsection and approved by the Surgeon General; and (D) which meets the requirements as to lack of discrimination on account of race, creed, or color, and for furnishing needed hospital services to persons unable to pay therefor, required by regulations prescribed under section 622 (f);

"(5) set forth the relative need determined in accordance with the regulations prescribed under section 622 (d) for the several projects included in such programs, and provide for the construction, insofar as financial resources available therefor and for maintenance and operation make possible, in the order of such relative need;

"(6) provide such methods of administration of the State plan, including methods relating to the establishment and maintenance of personnel standards on a merit basis (except that the Surgeon General shall exercise no authority with respect to the selection, tenure of office, or compensation of any individual employed in accordance with such methods), as the Surgeon General prescribes by regulation under section 622 (g);

"(7) provide minimum standards (to be fixed in the discretion of the State) for the maintenance and operation of hospitals which receive Federal aid under this part;

"(8) provide for affording to every applicant for a construction project an opportunity for hearing before the State agency;

"(9) provide that the State agency will make such reports in such form and containing such information as the Surgeon General may from time to time reasonably require, and give the Surgeon General, upon demand, access to the records upon which such information is based; and

"(10) provide that the State agency will from time to time review its hospital construction program and submit to the Surgeon General any modifications thereof which it considers necessary.

"(b) The Surgeon General shall approve any State plan and any modification thereof which complies with the provisions of subsection (a). If any such plan or modification thereof shall have been disapproved by the Surgeon General for failure to comply with subsection (a), the Federal Hospital Council shall, upon request of the State agency, afford it an opportunity for hearing. If such Council determines that the plan or modification complies with the provisions of such subsection, the Surgeon General shall thereupon approve such plan or modification.

"(c) No changes in a State plan shall be required within two years after initial approval thereof, or within two years after any change thereafter required therein, by reason of any change in the regulations prescribed pursuant to section 622, except with the consent of the State, or in accordance with further action by the Congress.

"(d) If any State, prior to July 1, 1948, has not enacted legislation providing that compliance with minimum standards of maintenance and operation shall be required in the case of hospitals which shall have received Federal aid under this title, such State shall not be entitled to any further allotments under section 624.

"ALLOTMENTS TO STATES

"SEC. 624. Each State for which a State plan has been approved prior to or during a fiscal year shall be entitled for such year to an allotment of a sum bearing the same ratio to the sums authorized to be appropriated pursuant to section 621 for such year as the product of (a) the population of such State and (b) the square of its allotment percentage (as defined in section 631 (a)) bears to the sum of the corresponding products for all of the States. The amount of tne allotment to a State shall be available, in accordance with the provisions of this part, for payment of 33⅓ per centum of the cost of approved projects within such State. The Surgeon General shall calculate the allotments to be made under this section and notify the Secretary of the Treasury of the amounts thereof. Sums allotted to a State for a fiscal year for construction and remaining unobligated at the end of such year shall remain available to such State for such purpose for the next fiscal year (and for such year only), in addition to the sums allotted for such State for such next fiscal year. Any amount of the sum authorized to be appropriated for a fiscal year which is not appropriated for such year, or which is not allotted in such year by reason of the failure of any State or States to have plans approved under this part, and any amount allotted to a State but remaining unobligated at the end of the period for which it is available to such State, is hereby authorized to be appropriated for the next fiscal year in addition to the sum otherwise authorized under section 621.

"APPROVAL OF PROJECTS AND PAYMENTS FOR CONSTRUCTION

"SEC. 625. (a) For each project for construction pursuant to a State plan approved under this part, there shall be submitted to the Surgeon General through the State agency an application by the State or a political subdivision thereof or by a public or other nonprofit agency. Such application shall set forth (1) a description of the site for such project, (2) plans and specifications therefor in accordance with the regulations prescribed by the Surgeon General under section 622 (e), (3) reasonable assurance that title to such site is or will be vested solely in the applicant, (4) reasonable assurance that adequate financial support will be available for the construction of the project and for its maintenance and operation when completed, and (5) reasonable assurance that the rates of pay for laborers and mechanics engaged in construction of the project will be not less than the prevailing local wage rates for similar work as determined in accordance with Public Law 403 of the Seventy-fourth Congress, approved August 30, 1935, as amended. The Surgeon General shall approve such application if sufficient funds to pay 33⅓ per centum of the cost of construction of such project are available from the allotment to the State, and if the Surgeon General finds (A) that the application contains such reasonable assurance as to title, financial support, and payment of prevailing rates of wages, (B) that the plans and specifications are in accord with the regulations prescribed pursuant to section 622, (C) that the application is in conformity with the State plan approved under section 623 and contains an assurance that the applicant will conform to the applicable requirements of the State plan and of the regulations prescribed pursuant to section 622 (f) regarding the provisions of facilities without discrimination on account of race, creed, or color, and for furnishing needed hospital facilities for persons unable to pay therefor, and an assurance that the applicant will conform to State standards for operation and maintenance, and (D) that it has been approved and recommended by the State agency and is entitled to priority over other projects within the State in accordance with the regulations prescribed pursuant to section 622 (d). No application shall be disapproved until the Surgeon General has afforded the State agency an apportunity for a hearing.

"(b) Upon approving an application under this section, the Surgeon General shall certify to the Secretary of the Treasury an amount equal to 33⅓ per centum of the estimated cost of construction of the project and designate the appropriation from which it is to be paid. Such certification shall provide for payment to the State, except that if the State is not authorized by law to make payments to the applicant the certification shall provide for payment direct to the applicant. Upon certification by the State agency, based upon inspection by it, that work has been performed upon a project, or purchases have been made, in accordance with the approved plans and specifications, and that payment of an installment is due to the applicant, the Surgeon General shall certify such installment for payment by the Secretary of the Treasury; except that if the Surgeon General, after investigation or otherwise, has ground to believe that a default has occurred requiring action pursuant to section 632 (a) he may, upon giving notice of hearing pursuant to such subsection, withhold certification pending action based on such hearing.

"(c) Amendment of any approved application shall be subject to approval in the same manner as an original application. Certification under subsection (b) may be amended, either upon approval of an amendment of the application or upon revision of the estimated cost of a project. An amended certification may direct that any additional payment be made from the applicable allotment for the fiscal year in which such amended certification is made.

"(d) The funds paid under this section for the construction of an approved project shall be used solely for carrying out such project as so approved.

"(e) If any hospital for which funds have been paid under this section shall, at any time within twenty years after the completion of construction, (A) be sold or transferred to any person, agency, or organization, (1) which is not qualified to file an application under this section, or (2) which is not approved as a transferee by the State agency designated pursuant to section 623 (a) (1), or its successor, or (B) cease to be a nonprofit hospital as defined in section 631 (g), the United States shall be entitled to recover from either the transferor or the transferee (or, in the case of a hospital which has ceased to be a nonprofit hospital, from the owners thereof) 33⅓ per centum of the then value of such hospital, as determined by agreement of the parties or by action brought in the district court of the United States for the district in which such hospital is situated.

"PART D—MISCELLANEOUS

"DEFINITIONS

"SEC. 631. For the purposes of this title—

"(a) the allotment percentage for any State shall be 100 per centum less that percentage which bears the same ratio to 50 per centum as the per capita income of such State bears to the per capita income of the continental United States (excluding Alaska), except that (1) the allotment percentage shall in no case be more than 75 per centum or less than 33⅓ per centum, and (2) the allotment percentage for Alaska and Hawaii shall be 50 per centum each, and the allotment percentage for Puerto Rico shall be 75 per centum;

"(b) the allotment percentages shall be promulgated by the Surgeon General between July 1 and August 31 of each even-numbered year, on the basis of the

average of the per capita incomes of the States and of the continental United States for the three most recent consecutive years for which satisfactory data are available from the Department of Commerce. Such promulgation shall be conclusive for each of the two fiscal years in the period beginning July 1 next succeeding such promulgation: *Provided*, That the Surgeon General shall promulgate such percentages as soon as possible after the enactment of this title, which promulgation shall be conclusive for the fiscal year ending June 30, 1947;

"(c) the population of the several States shall be determined on the basis of the latest figures certified by the Department of Commerce;

"(d) the term 'State' includes Alaska, Hawaii, Puerto Rico, and the District of Columbia;

"(e) the term 'hospital' (except as used in section 622 (a) and (b)) includes public health centers and general, tuberculosis, mental, chronic disease, and other types of hospitals, and related facilities, such as laboratories, outpatient departments, nurses' home and training facilities, and central service facilities operated in connection with hospitals, but does not include any hospital furnishing primarily domiciliary care;

"(f) the term 'public health center' means a publicly owned facility for the provision of public health services, including related facilities such as laboratories, clinics, and administrative offices operated in connection with public health centers;

"(g) the term 'nonprofit hospital' means any hospital owned and operated by a corporation or association, no part of the net earnings of which inures, or may lawfully inure, to the benefit of any private shareholder or individual;

"(h) the term 'construction' includes construction of new buildings, expansion, remodeling, and alteration of existing buildings, and initial equipment of any such buildings; including architects' fees, but excluding the cost of off-site improvements and, except with respect to public health centers, the cost of the acquisition of land; and,

"(i) the term 'cost of construction' means the amount found by the Surgeon General to be necessary for the construction of a project.

"WITHHOLDING OF CERTIFICATION

"SEC. 632. (a) Whenever the Surgeon General, after reasonable notice and opportunity for hearing to the State agency designated in accordance with section 612 (a) (1), finds that the State agency is not complying substantially with the provisions required by section 612 (a) to be contained in its application for funds under part B, or after reasonable notice and opportunity for hearing to the State agency designated in accordance with section 623 (a) (1) finds that the State agency is not complying substantially with the provisions required by section 623 (a), or by regulations prescribed pursuant to section 622, to be contained in its plan submitted under section 623 (a), or (2) that any funds have been diverted from the purposes for which they have been allotted or paid, or (3) that any assurance given in an application filed under section 625 is not being or cannot be carried out, or (4) that there is a substantial failure to carry out plans and specifications approved by the Surgeon General under section 625, the Surgeon General may forthwith notify the Secretary of the Treasury and the State agency that no further certification will be made under part B or part C, as the case may be, or that no further certification will be made for any project or projects designated by the Surgeon General as being affected by the default, as the Surgeon General may determine to be appropriate under the circumstances; and, except with regard to any project for which the application has already been approved and which is not directly affected by such default, he may withhold further certifications until there is no longer any failure to comply, or, if compliance is impossible, until the State repays or arranges for the repayment of Federal moneys which have been diverted or improperly expended.

"(b) (1) If the Surgeon General refuses to approve any application under section 625, the State agency through which the application was submitted, or if any State is dissatisfied with the Surgeon General's action under subsection (a) of this section, such State may appeal to the United States circuit court of appeals for the circuit in which such State is located. The summons and notice of appeal may be served at any place in the United States. The Surgeon General shall forthwith certify and file in the court the transcript of the proceedings and the record on which he based his action.

"(2) The findings of fact by the Surgeon General, unless substantially contrary to the weight of the evidence, shall be conclusive; but the court, for good cause shown, may remand the case to the Surgeon General to take further evidence, and the Surgeon General may thereupon make new or modified findings of fact and may modify his previous action, and shall certify to the court the transcript and record of the further proceedings. Such new or modified findings of fact shall likewise be conclusive unless substantially contrary to the weight of the evidence.

"(3) The court shall have jurisdiction to affirm the action of the Surgeon General or to set it aside, in whole or in part. The judgment of the court shall be subject to review by the Supreme Court of the United States upon certiorari or certification as provided in sections 239 and 240 of the Judicial Code, as amended.

"FEDERAL HOSPITAL COUNCIL; ADMINISTRATION OF TITLE

"SEC. 633. (a) The Surgeon General is authorized to make such administrative regulations and perform such other functions as he finds necessary to carry out the provisions of this title. Any such regulations shall be subject to the approval of the Administrator.

"(b) In administering this title, the Surgeon General shall consult with a Federal Hospital Council consisting of the Surgeon General, who shall serve as Chairman ex officio, and eight members appointed by the Administrator. Four of the eight appointed members shall be persons who are outstanding in fields pertaining to hospital and health activities, three of whom shall be authorities in matters relating to the operation of hospitals, and the other four members shall be appointed to represent the consumers of hospital services and shall be persons familiar with the need for hospital services in urban or rural areas. Each appointed member shall hold office for a term of four years, except that any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term, and the terms of office of the members first taking office shall expire, as designated by the Administrator at the time of appointment, two at the end of the first year, two at the end of the second year, two at the end of the third year, and two at the end of the fourth year after the date of appointment. An appointed member shall not be eligible to serve continuously for more than two terms but shall be eligible for reappointment if he has not served immediately preceding his reappointment. The Council is authorized to appoint such special advisory and technical committees as may be useful in carrying out its functions. Appointed Council members and members of advisory or technical committees, while serving on business of the Council, shall receive compensation at rates fixed by the Administrator, but not exceeding $25 per day, and shall also be entitled to receive an allowance for actual and necessary travel and subsistence expenses while so serving away from their places of residence. The Council shall meet as frequently as the Surgeon General deems necessary, but not less than once each year. Upon request by three or more members, it shall be the duty of the Surgeon General to call a meeting of the Council.

"(c) In administering the provisions of this title, the Surgeon General, with the approval of the Administrator, is authorized to utilize the services and facilities of any executive department in accordance with an agreement with the head thereof. Payment for such services and facilities shall be made in advance or by way of reimbursement, as may be agreed upon between the Administrator and the head of the executive department furnishing them.

"CONFERENCES OF STATE AGENCIES

"SEC. 634. Whenever in his opinion the purposes of this title would be promoted by a conference, the Surgeon General may invite representatives of as many State agencies, designated in accordance with section 612 (a) (1) or section 623 (a) (1), to confer as he deems necessary or proper. Upon the application of five or more of such State agencies, it shall be the duty of the Surgeon General to call a conference of representatives of all State agencies joining in the request. A conference of the representatives of all such State agencies shall be called annually by the Surgeon General.

"STATE CONTROL OF OPERATIONS

"SEC. 635. Except as otherwise specifically provided, nothing in this title shall be construed as conferring on any Federal officer or employee the right to exercise any supervision or control over the administration, personnel, maintenance, or operation of any hospital with respect to which any funds have been or may be expended under this title."

SEC. 3. Paragraph (2) of section 208 (b) of the Public Health Service Act, as amended, is amended by inserting "(A)" before the words "to assist"; by striking out the word "paragraph" and inserting in lieu thereof the word "clause"; and by striking out the period at the end of such paragraph and inserting in lieu thereof a comma and the following: "and (B) to assist in carrying out the purposes of title VI of this Act, but not more than twenty such officers appointed pursuant to this clause shall hold office at the same time."

SEC. 4. Section 1 of the Public Health Service Act is amended to read:

"SECTION 1. Titles I to VI, inclusive, of this Act may be cited as the 'Public Health Service Act'."

SEC. 5. The Act of July 1, 1944 (58 Stat. 682), is hereby further amended by changing the number of title VI to title VII and by changing the numbers of sections 601 to 612, inclusive, and references thereto, to sections 701 to 712, respectively.

Approved August 13, 1946.

U. S. PUBLIC HEALTH SERVICE REGULATIONS—APPENDIX A AND B

TITLE 42—PUBLIC HEALTH

Chapter 1—Public Health Service, Federal Security Agency

Part 10—Grants for Survey, Planning and Construction of Hospitals

Sections 10.1 to 10.79, inclusive, of this part contain Public Health Service Regulations issued pursuant to the provisions of section 622 of the Public Health Service Act as amended by the Hospital Survey and Construction Act (Public Law 725, 79th Congress) approved August 13, 1946, which added to the act a new Title VI entitled "Construction of Hospitals." Section 622 requires that within six months after enactment of the new title, the Surgeon General shall promulgate regulations prescribing general policies to be followed in setting up and administering State plans for construction of public and other nonprofit hospitals. Regulations issued under this section are subject to the approval of the Federal Hospital Council established by the act and of the Administrator. These regulations were approved by the Federal Hospital Council at a meeting held on November 14, 1946.

SUBPART A—DEFINITIONS

Sec.
10.1 Definitions.

SUBPART B—DISTRIBUTION OF GENERAL HOSPITAL BEDS

10.11 Plan of distribution.
10.12 Maximum State allowance.
10.13 Standards for construction program.
10.14 Beds classified as general hospital beds.

SUBPART C—DISTRIBUTION OF TUBERCULOSIS, MENTAL, AND CHRONIC DISEASE HOSPITAL BEDS

10.21 Maximum State allowance.
10.22 Distribution.

SUBPART D—DISTRIBUTION OF PUBLIC HEALTH CENTERS

10.31 Maximum State allowance.
10.32 Distribution.

SUBPART E—PRIORITY OF PROJECTS

10.41 Manner of determination.
10.42 Balance among categories of facilities.
10.43 All categories of facilities; additional facilities as against replacements.
10.44 General hospital category.
10.45 Chronic disease category.
10.46 Public health centers.
10.47 Size and character.

SUBPART F—GENERAL STANDARDS OF CONSTRUCTION AND EQUIPMENT

10.51 General.
10.52 Size of mental and psychopathic hospitals.
10.53 Size of tuberculosis hospitals.

SUBPART G—NON-DISCRIMINATION AND HOSPITAL SERVICES FOR PERSONS UNABLE TO PAY THEREFOR

10.61 General.
10.62 Non-discrimination.
10.63 Hospital services for persons unable to pay therefor.

SUBPART H—METHODS OF ADMINISTRATION OF THE STATE PLAN

10.71 General
10.72 Construction program.
10.73 Personnel administration.
10.74 Fair hearings.
10.75 Construction standards.
10.76 Publicizing the State plan.
Sec.
10.77 Processing construction applications.
10.78 Requests for construction payments.
10.79 Fiscal and accounting requirements.

AUTHORITY: §§ 10.1 to 10.79, inclusive, issued under sec. 622, Pub. Law 725, 79th Cong., 60 Stat. 1042; 42 U. S. C. Supp. 291e.

SUBPART A—DEFINITIONS

§ 10.1 *Definitions.* Except as otherwise stated, the following terms shall have the following meanings when used in the regulations in this part:

(a) *Area.* A logical hospital service area, taking into account such factors as population distribution, natural geographic boundaries, transportation and trade patterns, all parts of which are reasonably accessible to existing or proposed hospital facilities and which has been designated by the State Agency as a base, intermediate, or rural area. Nothing in the regulations in this part shall preclude the formation of an interstate area with the mutual agreement of the States concerned.

(b) *Base area.* Any area which is so designated by the State Agency and has the following characteristics: (1) Irrespective of the population of the area, it shall contain a teaching hospital of a medical school whose undergraduate medical program is approved by the American Medical Association's Council on Medical Education and Hospitals. This hospital shall be suitable for use as a base hospital in a coordinated hospital system within the State; or (2) The area shall contain a total population of at least 100,000 and at least one general hospital which has a complement of 200 or more beds for general use. This hospital shall be registered with the American Medical Association and approved by the American College of Surgeons. Approved residencies in two or more specialties, as defined by the American Medical Association, and approved interneships shall be provided by this hospital. The hospital shall be suitable for use as a base hospital in a coordinated hospital system within the State.

1. Section 10.1 (b) is amended to read as follows:

§ 10.1 *Definitions* * * *

(b) *Base area.* Any area which is so designated by the State Agency and has the following characteristics: (1) Irrespective of the population of the area, it shall contain a teaching hospital of a medical school; this hospital must be suitable for use as a base hospital in a coordinated hospital system within the State; or (2) the area has a total population of at least 100,000 and contains or will contain on completion of the hospital construction program under the State plan at least one general hospital which has a complement of 200 or more beds for general use. This hospital must furnish interneships and residencies in two or more specialties and must be suitable for use as a base hospital in a coordinated hospital system within the State.

(c) *Intermediate area.* Any area so designated by the State Agency which: (1) Has

a total population of at least 25,000 and (2) contains, or will contain on completion of the hospital construction program under the State plan, at least one general hospital which has a complement of 100 or more beds and which would be suitable for use as a district hospital in a coordinated hospital system within the State.

(d) *Rural area.* Any area so designated by the State Agency which constitutes a unit, no part of which has been included in a base or intermediate area.

(e) *Coordinated hospital system.* An interrelated network of general hospitals throughout a State in which one or more base hospitals provide district hospitals and the latter in turn provide rural and other small hospitals with such services relative to diagnosis, treatment, medical research and teaching as cannot be provided by the smaller hospitals individually.

(f) *Hospital.* Public health centers and general, tuberculosis, mental, chronic disease, and other types of hospitals, and related facilities, such as laboratories, outpatient departments, nurses' home and training facilities, and central service facilities operated in connection with hospitals, but not institutions furnishing primarily domiciliary care. The term "hospital," except as applied generally to include public health centers, shall be restricted to institutions providing community service for in-patient medical or surgical care of the sick or injured; this includes obstetrics. It shall exclude Federal hospitals and institutions found to constitute a public hazard.

(g) *Allied special hospital.* Cardiac, eye-ear-nose-throat, isolation, maternity, children's orthopedic, and skin and cancer, as well as other hospitals providing similar specialized types of care commonly given in general hospitals. The term excludes mental, tuberculosis, and chronic disease hospitals.

(h) *Chronic disease hospital.* A hospital, the primary purpose of which is medical treatment of chronic illness, including the degenerative diseases, and which furnishes hospital treatment and care, administered by or under the direction of persons licensed to practice medicine in the State. The term includes such convalescent homes as meet the foregoing qualifications. It excludes tuberculosis and mental hospitals, nursing homes, and also institutions, the primary purpose of which is domiciliary care.

(i) *General hospital.* Any hospital for in-patient medical or surgical care of acute illness or injury and for obstetrics, of which not more than 50% of the total patient days during the year are customarily assignable to the following categories of cases: Chronic, convalescent and rest, drug and alcoholic, epileptic, mentally deficient, mental, nervous and mental, and tuberculosis.

(j) *Mental hospital.* A hospital for the diagnosis and treatment of nervous and mental illness but excluding institutions for the feeble-minded and epileptics.

(k) *Nonprofit hospital.* Any hospital owned and operated by a corporation or association, no part of the net earnings of which is applied, or may lawfully be applied, to the benefit of any private shareholder or individual.

(l) *Psychopathic hospital.* A type of mental hospital where patients may receive intensive treatment and where only a minimum of continued treatment facilities will be afforded.

(m) *Tuberculosis hospital.* A hospital for the diagnosis and treatment of tuberculosis, excluding preventoria.

(n) *Hospital bed.* A bed for an adult or child patient. Bassinets for the new-born in a nursery, beds in labor rooms and in health centers, and other beds used exclusively for emergency purposes are not included in this definition.

(o) *Population.* In computing the population of the State or any area thereof for the purposes of the regulations in this part, the State Agency shall use the latest figures of civilian population certified by the Federal Department of Commerce with such adjustments as may be necessary to reflect changing local conditions. Such adjustments shall not result in any increase in the total population of the State over the figures certified by the Department of Commerce.

(p) *Public health center.* A publicly owned facility utilized by a local health unit for the provision of public health services, including related facilities such as laboratories, clinics, and administrative offices operated in connection with public health centers.

(q) *Local health unit.* A single county, city, county-city, or local district health unit, as well as a State health district unit where the primary function of the State district unit is the direct provision of public health services to the population under its jurisdiction.

(r) *Public health services.* Services provided through organized community effort in the endeavor to prevent disease, prolong life, and maintain a high degree of physical and mental efficiency. In addition to the services which the community already provides as a matter of practice, the term shall include such additional services as the community from time to time may deem it desirable to provide.

(s) *State.* The 48 States, Alaska, Hawaii, Puerto Rico, and the District of Columbia.

(t) *State agency.* As the context may require, either the agency designated by the State pursuant to section 612 (a) (1) of the Federal Hospital Survey and Construction Act or the agency designated to administer the State plan pursuant to section 623 (a) (1) of the Federal Act.

(u) *Surgeon General.* The Surgeon General of the United States Public Health Service.

(v) *Federal Act.* Title VI of the Public Health Service Act, as amended by the Hospital Survey and Construction Act (Public Law 725, 79th Congress, 60 Stat. 1042; 42 U. S. C. Supp. 291 (e)), approved August 13, 1946.

SUBPART B—DISTRIBUTION OF GENERAL HOSPITAL BEDS

§ 10.11 *Plan of distribution.* It is the intention of the regulations in this part to provide for distribution of general hospital beds among the different areas of the State so as to provide comprehensive and adequate types of hospital services to all sizes of communities. In accordance with this intent the general methods by which general hospital beds shall be distributed among base areas, intermediate areas, and rural areas, shall be as provided for in § § 10.12 to 10.14, inclusive.

§ 10.12 *Maximum State allowance.* The number of general hospital beds required to provide adequate hospital services to the people residing in any State shall be:

(a) In States having 12 or more persons per square mile, 4.5 beds per thousand population;

(b) In States having less than 12 and more than 6 persons per square mile, 5 beds per thousand population; and

(c) In States having 6 persons or less per square mile, 5.5 beds per thousand population.

If in any area (base, intermediate, or rural), as determined by the State agency, there are more beds than required by these standards, such excess may be eliminated in calculating the maximum allowance for the State as a whole.

§ 10.13 *Standards for construction program.* The construction program under the State plan shall provide for general hospital beds, existing and proposed, in each area within the State in accordance with the following standards:

(a) In States having 12 or more persons per square mile, 2.5 beds per thousand population in rural areas, 4.0 beds per thousand in intermediate areas, and 4.5 beds per thousand in base areas;

(b) In States having less than 12 but more than 6 persons per square mile, 3 beds per thousand population in rural areas, 4.5 beds per thousand in intermediate areas, and 5 beds per thousand in base areas; and

(c) In States having 6 or less persons per square mile, 3.5 beds per thousand population in rural areas, 5.0 beds per thousand in intermediate areas, and 5.5 beds per thousand in base areas.

In addition, the State Agency shall subtract from the total number of beds permitted for each area under § 10.12 the total number of beds permitted for each area under this section or the number of beds in existence, whichever is greater. The total number of beds so determined for all areas shall be distributed at the discretion of the State Agency and without regard to standards specified in § § 10.12 and 10.13. This shall be done in such a manner as to meet the special needs of any area and facilitate the coordination of hospital services. In allocating beds under this section, the State Agency shall give special consideration to hospitals serving persons in rural areas and communities with relatively small financial resources.

§ 10.14 *Beds classified as general hospital beds.* The count of existing general hospital beds shall include the beds in the hospitals of this category as defined above, and also: (a) Beds in allied special hospitals, and (b) beds in any tuberculosis, mental, or chronic disease hospital which are specifically assigned for the care of general patients, except where the beds so assigned in any institution number less than ten. Beds for persons hospitalized for the primary condition of tuberculosis, mental, or chronic disease shall be excluded.

SUBPART C—DISTRIBUTION OF TUBERCULOSIS, MENTAL, AND CHRONIC DISEASE HOSPITAL BEDS

§ 10.21 *Maximum State allowance.* The number of beds required to provide adequate hospital services for tuberculous patients, mental patients, and chronic disease patients in any State shall be:

(a) For tuberculous patients, 2.5 times the average annual deaths from tuberculosis in the State over the 5 year period from 1940 to 1944 inclusive;

(b) For mental patients, 5 per thousand population; and

(c) For chronic disease patients, 2 per thousand population.

The count of existing tuberculosis, mental, and chronic disease hospital beds shall include the beds in the hospitals of these respective categories as defined above, and also beds in any general hospital which are specifically assigned for the care of tuberculous, mental and chronic disease patients respectively, except where the beds so assigned in any institution number less than 10 in any category.

§ 10.22 *Distribution.* Whenever practicable, tuberculosis hospitals receiving grants under the Federal Act shall be built in centers of population and in proximity to general hospitals.

Whenever practicable, mental hospitals receiving grants under the Federal Act shall be located in centers of population and in proximity to general hospitals.

Whenever practicable, chronic disease hospitals shall be built in centers of population and in proximity to general hospitals.

SUBPART D—DISTRIBUTION OF PUBLIC HEALTH CENTERS

§ 10.31 *Maximum State allowance.* The number of public health centers in a State (counting those existing as well as those provided with aid under the act), shall not exceed one per 30,000 State population, except in States having less than 12 persons per square mile the number shall not exceed one per 20,000 population. The following shall be excluded from the count of public health centers:

(a) Existing facilities which the State Agency, after consultation with the State health authority, has determined to be unsuitable for use as public health centers, and

(b) Auxiliary facilities such as laboratories and clinics, whether existing or proposed, and whether they are located within the same structure as the health department office or in a separate structure.

§ 10.32 *Distribution.* The general method of distribution of public health centers throughout the State shall conform to the plan of organization of local health units within the State. In instances where the State Health Department is not the State Agency designated under section 623 (a) (1) of the Federal Act, the method of distribution shall be determined after consultation with the State health authority.

SUBPART E—PRIORITY OF PROJECTS

§ 10.41 *Manner of determination.* The general manner in which the State Agency shall determine the priority of projects included in the State construction program shall conform with the principles set out in § § 10.40 to 10.47, inclusive.

§ 10.42 *Balance among categories of facilities.* Insofar as practicable, the State Agency shall develop its construction program in relation to the proportionate need for each of the five categories of facilities (general, mental, tuberculosis, chronic, and health centers). In determining proprotionate needs, consideration shall be given to existing facilities and those under construction without assistance under the Federal act.

§ 10.43 *All categories of facilities; additional facilities as against replacements.* Initial installations and additions to existing hospitals and health centers shall be given priority over replacements, except:

(a) Where replacement is of minor character and necessary to the provision of needed additional facilities;

(b) Where, in the case of a hospital, replacement is essential to eliminate an existing needed hospital which constitutes a public hazard;

(c) Where, in the case of a public health center, the State health authority has certified that the existing facility is unsuitable for use as a public health center.

§ 10.44 *General hospital category.* The relative priority of these projects shall be determined after consideration of the following factors in the order of importance as given:

(a) The relative need for beds in the area (base, intermediate, or rural) in which the project will be located, taking into account the utilization of existing general hospital beds in the area and giving special consideration to projects providing service for persons located in rural communities and areas with relatively small financial resources;

(b) The extent to which beds will be made available for groups of the population which by reason of race, creed or color are less adequately served than other groups of the population.

§ 10.45 *Chronic disease category.* Priority shall be given to those projects in which the chronic disease facilities will be operated as sub-units of general hospitals.

§ 10.46 *Public health centers.* Highest priority in this category shall be given to the provision of facilities for local health units serving rural communities and areas with relatively small financial resources. Where the agency designated to administer the State plan is not the State health authority, the State Agency shall determine the relative priorities to be established after consultation with the State health authority.

§ 10.47 *Size and character.* Insofar as practicable and without affecting the priority of hospitals serving rural communities and areas with relatively small financial resources, special consideration shall be given to applications for construction of projects of a size and character consistent with efficient and economical operation.

SUBPART F—GENERAL STANDARDS OF CONSTRUCTION AND EQUIPMENT

§ 10.51 *General.* Plans and specifications for each project submitted to the Surgeon General for approval under the Federal Act shall be prepared in accordance with the "General Standards of Construction and Equipment" for hospitals of different classes and in different types of location as prescribed by the Surgeon General and set forth in Appendix A. Equipment shall be provided in the kind and to the extent necessary for the proper functioning of the facility as planned. The design and construction covered by the plans and specifications must conform with the applicable State and local laws, codes, and ordinances and with the approved State plan. The plans and specifications must be complete and adequate for contract purposes and have the approval and recommendation of the State Agency.

2. Section 10.51 is amended to read as follows:

§ 10.51 *General.* Plans and specifications for each project submitted to the Surgeon General for approval under the Federal Act shall be prepared in accordance with the 'General Standards of Construction and Equipment' for hospitals of different classes and in different types of locations as prescribed by the Surgeon General set forth in Appendix A. The Surgeon General may approve plans and specifications which contain deviations from the requirements prescribed, if he is satisfied that the purposes of such requirements have been fulfilled.

The design and construction covered by the plans and specifications must conform with the applicable State and local laws, codes, and ordinances and with the approved State plan. The plans and specifications must be complete and adequate for contract purposes and have the approval and recommendation of the State Agency.

Equipment shall be provided in the kind and to the extent necessary for the proper functioning of the facility as planned.

§ 10.52 *Size of mental and psychopathic hospitals.* No application for construction

of a psychopathic hospital with a capacity of more than 500 beds or of a mental hospital with a capacity of more than 3,000 beds shall be approved. This requirement shall not be construed to prevent approval of applications for improvements of psychopathic and mental hospitals with bed capacities equal to or greater than those specified above if such improvements are designed to provide more intensive treatment facilities within such hospitals.

§ 10.53 *Size of tuberculosis hospitals.* No application for construction of a tuberculosis hospital with a capacity of less than 100 beds shall be approved, except that an application for construction of a tuberculosis hospital with a capacity from 50 to 100 beds may be approved where necessary to provide facilities for an isolated area too small to support a larger hospital.

SUBPART G—NON-DISCRIMINATION AND HOSPITAL SERVICES FOR PERSONS UNABLE TO PAY THEREFOR

§ 10.61 *General.* The State plan shall provide for adequate hospital facilities for the people residing in a State without discrimination on account of race, creed, or color and shall provide for adequate hospital facilities for persons unable to pay therefor.

§ 10.62 *Non-discrimination.* Before a construction application is recommended by a State Agency for approval, the State Agency shall obtain assurance from the applicant that the facilities to be built with aid under the Act will be made available without discrimination on account of race, creed, or color to all persons residing in the area to be served by that hospital. However, in any area where separate hospital facilities are provided for separate population groups, the State Agency may waive the requirement of assurance from the construction applicant if (a) it finds that the plan otherwise makes equitable provision on the basis of need for facilities and services of like quality for each such population group in the area, and (b) such finding is subsequently approved by the Surgeon General. Facilities provided under the Federal Act will be considered as making equitable provision for separate population groups when the facilities to be built for the group less well provided for heretofore are equal to the proportion of such group in the total population of the area, except that the State plan shall not program facilities for a separate population group for construction beyond the level of adequacy for such group.

§ 10.63 *Hospital services for persons unable to pay therefor.* Before a construction application is recommended by a State Agency for approval, the State Agency shall obtain assurance that the applicant will furnish a reasonable volume of free patient care. As used in this section, "free patient care" means hospital service offered below cost or free to persons unable to pay therefor, including under "persons unable to pay therefor," both the legally indigent and persons who are otherwise self-supporting but are unable to pay the full cost of needed hospital care. Such care may be paid for wholly or partly out of public funds or contributions of individuals and private and charitable organizations such as community chests or may be contributed at the expense of the hospital itself. In determining what constitutes a reasonable volume of free patient care, there shall be considered conditions in the area to be served by the applicant, including the amount of free care that may be available otherwise than through the applicant. The requirement of assurance from the applicant may be waived if the applicant demonstrates to the satisfaction of the State Agency, subject to subsequent approval by the Surgeon General, that furnishing such free patient care is not feasible financially.

SUBPART H—METHODS OF ADMINISTRATION OF THE STATE PLAN

§ 10.71 *General.* The State plan shall provide for general methods of administration which are in accord with the principles set out in § § 10.72 to 10.78, inclusive.

§ 10.72 *Construction program.* The State hospital construction program shall be developed in the following manner:

(a) The State Agency shall determine need for hospital facilities of all types and health center facilities by applying the ratios heretofore specified and deducting existing facilities, except those justifying replacement under priority regulations.

(b) The State Agency shall determine through field investigation, and otherwise, the approximate locations within each area at which needed beds or health centers should most appropriately be built.

(c) After having determined hospital and public health center needs, the State Agency shall establish an overall construction program. This program shall set forth all such needs in accordance with the standards specified in § § 10.12, 10.21, and 10.31 and shall show the relative need for each project included, irrespective of the availability of funds for construction and for maintenance and operation.

(d) The State Agency shall, from time to time as necessary, but at least annually, review the overall hospital construction program. Annually, at a time fixed by the Surgeon General, the Agency shall submit to him a report, which shall contain such revisions of the construction program, as the Agency considers necessary.

(e) The State Agency shall establish a separate construction schedule on such forms and for such periods as the Surgeon General may prescribe. Insofar as funds are available for construction and for maintenance and operation, construction shall be scheduled in the order of relative need.

§ 10.73 *Personnel administration.* A system of personnel administration on a merit basis shall be established and maintained with respect to the personnel employed in the administration of the State plan. Such a system shall include provision for:

(a) Impartial administration of the merit system;

(b) Operation on the basis of published rules or regulations;

(c) Classification of all positions on the basis of duties and responsibilities and establishment of qualifications necessary for the satisfactory performance of such duties and responsibilities;

(d) Establishment of compensation schedules adjusted to the responsibility and difficulty of the work;

(e) Selection of permanent appointees on the basis of examinations so constructed as to provide a genuine test of qualification and so conducted as to afford all qualified applicants opportunity to compete;

(f) Advancement on the basis of capacity and meritorious service; and

(g) Tenure of permanent employees.

Substantial compliance with the merit system policies of the Public Health Service as set forth in Appendix B will be deemed to meet the requirements of the regulations in this part.

§ 10.74 *Fair hearings.* The State Agency shall establish such rules and regulations as will provide an opportunity for an appeal to and a fair hearing before the State Agency to every applicant for a construction project who is dissatisfied with any action of the State Agency regarding its application.

§ 10.75 *Construction standards.* The State Agency shall adopt general standards of construction and equipment for the various types of hospitals and health centers assisted under this program. The standards adopted shall not be less than the general standards prescribed by the Surgeon General and set forth in Appendix A.

§ 10.76 *Publicizing the State plan.* (a) Prior to submission of the State plan to the Surgeon General, the State Agency shall publish a general description of the provisions proposed to be included in the State plan and shall give reasonable notice of a public hearing at which all interested persons or organizations will be given an opportunity to be heard.

(b) After the Surgeon General has approved the State plan, the State Agency shall publish a general description of its provisions in newspapers having general circulation throughout the State and shall make the approved State plan available for examination, upon request, to all interested persons or organizations.

§ 10.77 *Processing construction applications*—(a) *Form of application.* Construction applications, including a detailed estimate of the cost of the project, shall be submitted to the Surgeon General through the State Agency and shall be executed on forms prescribed by the Surgeon General.

(b) *Order of processing applications.* The State Agency shall process applications received in the order of priority, except that the State Agency may approve, recommend and forward to the Surgeon General applications out of the order of priority if:

(1) The State Agency has afforded reasonable opportunity for development and presentation of projects in the order of priority, and

(2) If the State Agency certifies to the Surgeon General that financial resources for the construction, maintenance and operation of projects of higher priority are not then available.

The priority of a project under the State plan shall not be affected by the fact that other projects of lower priority have previously been approved and recommended by the State Agency.

(c) *Assurances from applicant.* In addition to assurances otherwise required by the State Agency, before approving an application, the State Agency must have assurance from the applicant:

(1) That actual construction work will be performed by the lump-sum (fixed price) contract method, that adequate methods of obtaining competitive bidding will be employed prior to awarding the construction contract, either by public advertising or circularizing three or more bidders, and that the award of the contract will be made to the responsible bidder submitting the lowest acceptable bid;

(2) That the construction contracts will prescribe the minimum rates of pay for laborers and mechanics engaged in construction of the project as determined by the Secretary of Labor and that such minimum rates will be stated in the specifications advertised in the call for bids on the proposed project;

(3) That the requirement that each contractor or subcontractor shall furnish a weekly sworn affidavit with respect to the wages paid each employee during the preceding week, as required by 48 Stat. 948, (40 U. S. C. 276 (b) and 276 (c)), and the regulations issued pursuant thereto, will be incorporated in the project specifications and made a part of the construction contract;

(4) That the project will not be advertised or placed on the market for bidding until the final working drawings and specifications have been approved by the Surgeon General and the applicant has been so notified;

(5) That no construction contract or contracts for the project or a part thereof, the cost of which is in excess of the estimated cost approved in the application for that portion of the work covered by the plans, will be entered into without the prior approval of the Surgeon General;

(6) That the construction contract will require the contractor to furnish performance and payment bonds, the amount of which shall each be in an amount not less than fifty percentum (50%) of the contract price, and to maintain during the life of the contract adequate fire, workmen's compensation, public liability and property damage insurance;

(7) That any change or changes in the contract which (i) makes any major alteration in the work required by the plans and specifications, or (ii) raises the total con-

tract price over the approved estimate of cost of the work covered by the plans and specifications will be submitted to the Surgeon General for prior approval;

(8) That the construction contract will provide that the Surgeon General, the State Agency and their representatives will have access at all times to the work wherever it is in preparation or progress and that the contractor will provide proper facilities for such access and inspection;

(9) That the applicant will provide and maintain competent and adequate architectural or engineering supervision and inspection at the project to insure that the completed work conforms with the approved plans and specifications; and

10) That the hospital, when completed, will be operated and maintained in accordance with minimum standards prescribed by the State Agency for the maintenance and operation of hospitals aided under the Federal Act.

3. Section 10.77 (c) is amended to read as follows:

§ 10.77 *Processing construction applications.* * * *

(c) *Assurances from applicant.* In addition to assurance otherwise required by the State Agency, before approving an application, the State Agency must have assurance from the applicant:

(1) That actual construction work will be performed by the lump sum (fixed price) contract method, that adequate methods of obtaining competitive bidding will be or have been employed prior to awarding the construction contract, either by public advertising or circularizing three or more bidders, and that the award of the contract will be or has been made to the responsible bidder submitting the lowest acceptable bid;

(2) That the construction contracts will prescribe the minimum rates of pay for laborers and mechanics engaged in construction of the project as determined by the Secretary of Labor and that such minimum rates will be stated in the specifications advertised in the call for bids on the proposed project;

(3) That the requirement that each contractor or subcontractor shall furnish a weekly sworn affidavit with respect to the wages paid each employee during the preceding week, as required by 48 Stat. 948 (40 U. S. C. 276 (b) and 276 (c)), and the regulations issued pursuant thereto, will be incorporated in the project specifications and made a part of the construction contract;

(4) That the project will not be advertised or placed on the market for bidding until the final working drawings and specifications have been approved by the Surgeon General and the applicant has been so notified;

(5) That no construction contract or contracts for the project or a part thereof, the cost of which is in excess of the estimated cost approved in the application for that portion of the work covered by the plans and specifications, will be entered into without the prior approval of the Surgeon General;

(6) That the construction contract will require the contractor to furnish performance and payment bonds, the amount of which shall each be in an amount not less than fifty percentum (50%) of the contract price, and to maintain during the life of the contract adequate fire, workmen's compensation, public liability and property damage insurance;

(7) That any change or changes in the contract which (i) makes any major alteration in the work required by the plans and specifications, or (ii) raises the total contract price over the approved estimate of cost of the work covered by the plans and specifications will be submitted to the Surgeon General for prior approval;

(8) That the construction contract will provide that the Surgeon General, the State Agency and their representatives will have access at all times to the work wherever it is in preparation or progress and that the contractor will provide proper facilities for such access and inspection;

(9) That the applicant will provide and maintain competent and adequate architectural or engineering supervision and inspection at the project to insure that the completed work conforms with the approved plans and specifications; and

(10) That the hospital, when completed, will be operated and maintained in accordance with minimum standards prescribed by the State Agency for the maintenance and operation of hospitals aided under the Federal Act.

Provided: That the State Agency, with the prior approval of the Surgeon General may waive technical compliance with any of the requirements of this paragraph except subparagraph (1) if it finds that the purpose of such requirement has been fulfilled.

(d) *Certification to the Surgeon General.* After the State Agency has approved a construction application, it shall recommend it to the Surgeon General for approval and shall certify:

(1) That the application contains reasonable assurance as to title, payment of prevailing rates of wages, and financial support for the non-Federal share of the cost of construction and the entire cost of maintenance and operation when completed;

(i) Availability of funds for the non-Federal share of construction costs shall mean (*a*) funds immediately available, placed in escrow, or acceptably pledged, or (*b*) funds or fund sources specifically earmarked in a sum sufficient for that purpose or (*c*) other assurances acceptable to the Surgeon General.

(ii) To assure the availability of funds for maintenance and operation, the applicant for the construction of a new project must have included in the application a proposed operating budget, on a form prescribed by the Surgeon General giving assurance that (*a*) for the first year of operation, available funds, contingent or other acceptable pledges, or escrow arrangements for funds are equal

to the difference between proposed operating expenditures and anticipated revenue from patients and are not less than one-third of the proposed operating expenditures for that period, and (*b*) for the second year, available funds, contingent or other acceptable pledges or escrow arrangements for funds are equal to the difference between proposed operating expenditures and anticipated income. In the case of publicly sponsored applications the statement of the responsible public officials may be accepted as sufficient assurance. In the case of an addition to an existing facility, the applicant must have given assurance, through one or more of the means specified above, that funds are or will be available to meet the difference between proposed expenditures and anticipated income from the operation of the constructed addition for the two year period immediately following its completion;

4. Section 10.77 (d) (1) (ii) is amended to read as follows:

§10.77 *Processing construction applications.* * * *

(d) *Certification to the Surgeon General.* * * *

(1) * * *

(ii) To assure the availability of funds for maintenance and operation, the application for the construction of a new project must include a proposed operating budget, on a form prescribed by the Surgeon General, for the two year period immediately following its completion. In the case of an addition to an existing facility, the application must include a statement showing that funds are or will be available to meet the difference between proposed expenditures and anticipated income from the operation of the constructed addition for the two year period immediately following its completion.

(2) That the plans and specifications are in accord with Appendix A;

(3) That the application is in conformity with the State plan approved by the Surgeon General and contains an assurance that the applicant will conform to the applicable requirements of the plan;

(4) That the application contains an assurance that the applicant will conform to the requirements of § § 10.61, 10.62, and 10.63 regarding the provision of facilities without discrimination on account of race, creed, or color, and for furnishing needed hospital facilities for persons unable to pay therefor;

(5) That the application contains an assurance that the applicant will conform to State standards for operation and maintenance and to all applicable State laws and State and local codes, regulations, and ordinances;

(6) That the application is entitled to priority over other projects within the State and that in making this determination the State agency has complied with paragraph (b) of this section; and

(7) That the State Agency has approved the application.

(e) *Amendments to application.* An amendment to any application approved by the Surgeon General shall be processed in the same manner as an original application, except that the original application's conformity with priority regulations shall suffice for the amendment. Minor changes not provided for under paragraph (c) (7) of this section are not considered amendments.

§ 10.78 *Requests for construction payments*—(a) *Certification by State Agency.* The State Agency shall certify to the Surgeon General the amount of payments due to an applicant for the cost of work performed and materials and equipment furnished.

Requests for payments under the construction contract shall be submitted in each of three stages as follows:

(1) The first installment when the shell of the building and roof are completed,

(2) The second installment when the mechanical work has been substantially roughed in, and

(3) The third installment when work under the construction contract is completed and final inspection made.

Requests for payment of the Federal share of other allowable costs such as architect's fee, inspection cost, and cost of equipment shall be included in requests for payments made at one or more of the stages indicated above.

All costs that have not been determined at the time the third payment for work performed under the construction contract is requested shall form the basis of a request for final payment of the Federal share of the cost of the entire project.

Consideration will be given to the payment of an additional installment prior to payment of the final installment provided the State Agency finds there are unusual circumstances which may unduly delay submission of the claim for payment of the final installment.

5. Section 10.78 (a) is amended to read as follows:

§ 10.78 *Requests for construction payments*—(a) *Certification by State Agency.* The State Agency shall certify to the Surgeon General the amount of payments due to an applicant for the cost of work performed and materials and equipment furnished.

Requests for payment under the construction contract shall be submitted in each of three stages, as follows:

(1) The first installment when not less than 25 percent of the work of construction of the building has been completed.

(2) The second installment when the mechanical work has been substantially roughed in, and

(3) The third installment when work under the construction contract is completed and final inspection made.

Requests for payment of the Federal share of other allowable costs such as architect's fee, inspection cost, and cost of equipment shall be included in requests for payments made at one or more of the stages indicated in this paragraph.

All costs that have not been determined at the time the third payment for work

performed under the construction contract is requested shall form the basis of a request for final payment of the Federal share of the entire project.

With the consent of the Surgeon General, the State Agency may adopt a different schedule of payments, but in no case shall such payments be less frequent than those scheduled in this paragraph.

(b) *Inspection by State Agency.* As a basis for certification by the State Agency that payment of an installment is due an applicant, the State Agency, without expense to the Federal government, shall make adequate inspections to determine that the work has been performed upon a project, or purchases have been made, in accordance with the approved plans and specifications.

§ 10.79 *Fiscal and accounting requirements*—(a) *Construction allotments.* The State Agency shall be responsible for establishing and maintaining accounts and fiscal controls of all Federal and State funds allotted for construction projects. Federal and State funds shall be separately identified by maintaining separate fund accounts for this purpose.

The fiscal records shall be so designed as to show at any given time the Federal funds allotted, encumbered, and unencumbered balances. If State contributions are made for construction, separate accounts, reflecting similar information, shall be maintained for State funds.

(b) *Construction payments.* Where the State may receive Federal funds for applicants for construction project grants, or the State itself is an applicant, adequate records of account and fiscal controls shall be established and maintained by the State to assure proper accounting of all funds received and disbursed. Similar suitable accounts shall be maintained to show the receipt and disbursement of State, local or other funds used for matching purposes.

The State Agency shall require that applicants receiving Federal funds establish and maintain adequate accounting and fiscal records to reflect the receipt and expenditure of funds allotted and paid for construction projects. Separate accounts by source shall be maintained of all funds received for construction projects. These records shall be maintained regardless of whether Federal funds are received through the State Agency or directly from the Federal government.

The States which by law are authorized to make payments to applicants shall promptly pay such applicants funds certified for payment by the Surgeon General for approved construction projects.

Dated: January 24, 1947.

[SEAL] JAMES A. CRABTREE,
Acting Surgeon General.

Approved: January 24, 1947.

JAMES A. CRABTREE,
Acting Chairman,
Federal Hospital Council.

Approved: February 4, 1947.

WATSON B. MILLER,
Federal Security Administrator.

APPENDIX A—GENERAL STANDARDS OF CONSTRUCTION AND EQUIPMENT

Sec.
I. Introduction.
II. Site survey and soil investigation.
III. General design and construction standards.
A. Site.
B 1. General hospital.
2. Tuberculosis hospital.
3. Mental hospital.
4. Psychiatric hospital.
5. Chronic disease hospital.
6. Nurses' home.
7. School of nursing.
8. Public health centers.
9. State public health laboratory.
10. Details, finishes, etc.
11. Finishes.
C. Structural.
D. Mechanical.
E. Preparation of plans, specifications and estimates.
IV. Equipment.

I. *Introduction.* The standards set forth herein have been established by the Surgeon General of The U. S. Public Health Service as required by the Hospital Survey and Construction Act. These standards constitute minimum requirements for construction and equipment and shall apply to all projects for which Federal assistance is requested under the act. They are considered necessary to insure properly planned and well constructed hospitals and public health centers which can be maintained and efficiently operated to furnish adequate services.

It should be particularly noted that the small hospital of 50 beds or under, presents a special problem. The size of the various departments will be generally smaller and will depend upon the requirements of the particular hospital. Some of the functions allotted separate spaces or rooms in these General Standards may be combined provided that the resulting plan will not compromise the best standards of medical and nursing practice.

Since these are minimum requirements it is desirable only that they form a basis for development of higher standards. In the interest of promoting the development of higher standards it is the intention of the Public Health Service to make suggestions and disseminate the latest information as to current good practice in planning and design of health facilities. This information will be distributed from time to time to State Agencies and other interested persons.

No attempt has been made in establishing these standards to comply with all of the various State and local codes and regulations. However, strict compliance with all applicable State and local codes and regulations is required. Likewise, compliance is required with minimum standards of construction and equipment promulgated by the State Agency where such requirements provide a higher standard than these Federal requirements.

II. *Site survey and soil investigation.* 1. The applicant shall provide for a survey and soil investigation of the site and furnish a plat of the site. The purpose of this survey and soil investigation is to obtain all information necessary for the design of the building, foundations and mechanical service connections and development of the site. It is

suggested that this matter be deferred until the Architect has been selected in order that he may co-operate with the Engineer who obtains the data.

2. If any existing structures or improvements on the site are to be removed by the owners or others, the buildings or improvements must be so designated on the plat.

3. Any discrepancies between the Survey and the recorded legal description shall be reconciled or explained.

4. The plat shall indicate:

(a) The courses and distances or property lines.

(b) Dimensions and location of any buildings, structures, casements, rights-of-way or encroachments on the site.

(c) Details of party walls, or walls and foundations adjacent to the lot lines.

(d) The position, dimensions and elevations of all cellars, excavations, wells, backfilled areas, etc., and the elevation of any water therein.

(e) All trees which may be affected by the building operations.

(f) Detailed information relative to established curb and building lines and street, alley sidewalk and curb grades at or adjacent to the site and the materials of which they are constructed.

(g) All utility services and the size, characteristics, etc., of these services.

(h) The location of all piping, mains, sewers, poles, wires, hydrants, manholes, etc., upon, over or under the site or adjacent to the site if within the limits of the survey.

(i) Complete information as to the disposal of sanitary, storm water and subsoil drainage and suitability of subsoil for rainwater or sanitary disposal purposes if dry wells are used.

(j) Official datum upon which elevations are based and a bench mark established on or adjacent to the site.

(k) Contours on elevations taken at 20 feet intervals, changes in slope, etc., over that portion of the site to be developed.

(l) Elevations of contours, bottoms of excavations, etc.

(m) Contemplated date and description of any proposed improvements to approaches or utilities adjacent to the site.

5. The plat shall bear a certification by the City Engineer or other qualified official, that the true street lines and the officially established grades of curbs, sidewalks and sewers are correctly given.

6. Adequate investigation shall be made to determine the sub-soil conditions. The investigations shall include a sufficient number of test pits or test borings as will determine, in the judgment of the Architect, the true conditions.

7. Samples of strata of soil or rock taken in each pit or boring shall be retained in hermetically sealed cans. Each sample can shall be identified as to the boring and elevations at which taken and the labels initialled by the Engineer making the soil investigation.

8. The following information shall be noted on the plat:

(a) Thickness, consistency, character and estimated safe bearing value of the various strata encountered in each pit or boring.

(b) Amount and elevation of ground water encountered in each pit or boring, its probable variation with the seasons and effect on the subsoil.

(c) The elevation of rock, if known, and the probability of encountering quicksand.

(d) Average depth of frost effect below surface of ground.

(e) High and low water levels of nearby bodies of water affecting the ground water level.

(f) The probability of freshets overrunning the site.

(g) Whether the soil contains alkali in sufficient quantities to affect concrete foundation.

(h) The elevation and location of the top of workings relative to the site, if the site is underlaid with mines, or old workings are located in the vicinity.

(i) Whether the site is subject to mineral rights which have not been developed.

III. *General design and construction standards*—(A) *Site.* The site of any hospital should be reasonably accessible to the center of community activities. Public transportation should be available within a reasonable distance, especially if an outpatient service is to be maintained.

No hospital should be built in a remote outlying district but should be located in relation to the center of population, close to where patients live and where competent special medical and surgical consultation is readily available and where employees can be recruited and retained.

The site should not be near insect breeding areas, noise or other nuisance producing industrial developments; airports, railways or highways producing noise or air pollution, or near penal or other objectionable institutions or near a cemetery.

Adequate roads and walks shall be provided within the lot lines to the main entrance, ambulance entrance and service entrance.

The site for a public health center should be convenient to the center of community activities.

(B-1). *General Hospital.* Units required in the General Hospital:

Administration Department

Up to and including 100 beds:

Business office with information counter.
PBX Board and night information.
Administrators' office.[1]
Director of nurses' office.[1]
Medical record room.
Staff lounge.
Lobby.
Public toilets.

Over 100 beds:

Business office.
Information counter.
PBX Board and night information.[1]

[1] Desirable but not mandatory.

Administrator's office.
Director of nurses' office.
Admitting office.
Medical social service room.
Medical record room (should be easily available to O. P. D.)
Staff lounge.
Library, conference and board room.
Lobby.
Reception room.
Public toilets.
Toilets for administrative personnel.

Adjunct Diagnostic and Treatment Facilities

Laboratory:
Up to and including 100 beds:
One room for 50 beds.
Two rooms for 100 beds.
Over 100 beds:
Four rooms.

Basal metabolism and electrocardiography:
Up to and including 100 beds; No special provisions required. Can be done in bed rooms.
Over 100 beds: One room near the laboratory and convenient to Out-Patient Dept.

Morgue and autopsy:[1] may not be required in hospital under 50 beds if other facilities such as undertaker or coroner are available. Where provided: Combination morgue and autopsy with mortuary refrigerator.

Radiology: Each hospital to have at least 1 radiographic room with adjoining darkroom, toilet, and office. Hospitals of 150 beds and over should have at least 1 additional radiographic room. The radiology department must be convenient to in- and out patients, and should have lead protection as required.

Physical therapy: In hospitals of 100 beds and over: Space should be provided for electrotherapy, hydrotherapy, massage, and exercise. Equipment to be furnished when competent technician is acquired.

Pharmacy:
Up to and including 100 beds: Drug room with minimum facilities for compounding.
Over 100 beds: Complete pharmacy and may include space for manufacturing and solution preparation depending on policy of hospital. Must be convenient to Out-Patient Department.

Nursing Department

General:
No room shall have more than 4 beds. In hospitals over 200 beds, rooms with more than 4 beds are permissible but not advisable. Each room shall have a lavatory. Nursing units composed of multi-bed rooms shall have a quiet room.
Approximately ⅓ of the hospital beds shall be in one-bed rooms, ⅓ in two-bed rooms, and ⅓ in four-bed rooms.[1]
Size of nursing unit: Not more than 30 beds.[1] Larger units are permissible in hospitals over 200 beds, if additional facilities are provided.
Minimum room areas: 80 sq. ft. per bed in two-and four-bed rooms. 125 minimum sq. ft. in one-bed rooms.
Service rooms in each nursing unit:
Nurses' station.
Utility room.
Floor pantry (one per floor).
Two toilets (male and female).
Bedpan facilities.
One bathroom.
Stretcher alcove.
Linen closet.
Supply closet.
Janitors' closet.
Isolation suite: One for each hospital unless contagious disease nursing unit is available in hospital.
Treatment room: One for each two nursing units per floor.
Solarium: One for each nursing floor.[1]
Nurses' toilet room: One for each nursing floor.
In hospitals of 100 beds and over the maternity department shall be housed in a separate wing or floor.

Nursery Department

Full term nursery:
Area required: Not less than 24 square feet per bassinet, 30 square feet recommended.
Number of bassinets: No more than 12 bassinets in each full term nursery, 8 recommended.
Examination and work room: One examination and work room between each two full term nurseries.

Premature nursery (to be provided where four or more premature bassinets will be required):
Area required: 40 square feet per bassinet.
Number of bassinets: Not more than six in each premature nursery.
Work room: Each premature nursery to have own work areas.

Suspect nursery:
Area required: 40 square feet per bassinet.
Number of bassinets Approximately 20% of full term bassinets. Not more than 3 bassinets in each suspect nursery.
Work room: One work room for each two suspect nurseries.

Formula room: Location in nursery area or near kitchen optional.

Surgical Department

(Shall be located to prevent traffic through it to any other part of the hospital)

Operating rooms:
Major: One for each 50 beds up to and including 200 beds. Above 200 beds the number of operating rooms will be based on the expected average of daily operations.
Minor: One in each hospital over 50 beds.
Cystoscopy: One in each hospital over 100 beds. Shall have an adjoining toilet room.
Fracture room: One in each hospital over 100 beds. Shall have an adjoining splint room.

[1] Desirable but not mandatory.

Auxiliary rooms:
- Sub-sterilizing room: One between each two operating rooms in hospitals of 50 beds and over.
- Scrub-up room: One between each two operating rooms.
- Nurses' locker room with toilet and shower.
- Janitors' closet.
- Instrument room beginning at 100 beds.
- Clean-up room.
- Anesthesia equipment storage.
- Surgical Supervisor station.
- Doctors' locker room with toilet and shower.
- Storage closet.
- Stretcher alcove.
- Storage room for sterile supplies beginning at 100 beds.
- Dark room beginning at 100 beds.

Central sterilizing and supply room:
- Divided into work space, sterilizing space and sterile storage space.
- Adjacent room for storage of unsterile supplies.

Obstetrics Department

(Shall be located to prevent traffic through it to any other part of the hospital. Shall be completely separated from Surgical Department)

Delivery rooms: one for each 20 maternity beds.

Labor beds: One for each 10 maternity beds.

Auxiliary rooms:
- Sub-sterilizing room: One between each two delivery rooms.
- Scrub-up room: One between each two delivery rooms.
- Clean-up room or utility room.[1]
- Supervisors' station.
- Nurses' locker room with toilet and shower starting at 50 beds.
- Sterile storage closet.
- Stretcher alcove.
- Janitors' closet.
- Doctors' locker room with toilet and shower starting at 50 beds.

Emergency Department

Accident room:
- With separate ambulance entrance.
- Should be completely separated from operating suite and obstetrical suite.
- Additional facilities will depend on amount of accident work expected.

Service Department

Dietary facilities:
- Main kitchen and bakery.
- Dietitians office.
- Dishwashing room.
- Adequate refrigeration.
- Garbage refrigerator.
- Can washing facilities.
- Day storage room.
- Personnel dining space.
- Provide 12 square feet per person; may be designed for 2 sittings.
- Cafeteria or table service optional.

Housekeeping facilities:
- Laundry; unless commercial or other laundry facilities are available, each hospital shall have a laundry of sufficient capacity to process full 7 days laundry in work week and contain the following areas:
  - Sorting area.
  - Processing area.
  - Clean linen and sewing room separate from laundry.
  - Sewing room may be included in clean linen room in hospitals up to and including 100 beds.
- Housekeeper's office.

Mechanical facilities:
- Boiler and pump room.
- Maintenance shops.
- Shower and locker facilities.
- Engineers' office.
- In hospitals up to and including 100 beds at least one room shall be provided. In larger hospitals separation of carpentry, painting and plumbing should be provided.
- For minimum requirements for mechanical and electrical work see the respective sections.

Employees' facilities:
- Nurses' locker room without nurses' home:
  - Locker room with one locker for each two hospital beds.
  - Rest room.
  - Toilet and shower room.
- Nurses' locker room with nurses' home adjacent:
  - Rest room.
  - Lockers as required.
  - Toilet room.
- Female help lockers:
  - Locker room.
  - Rest room.
  - Toilet and shower room.
- Male help lockers:
  - Locker room.
  - Toilet and shower room.
- Ratio of male and female help will vary and size of locker rooms must be adjusted accordingly.

Storage:
- Inactive record storage.
- General storage: 20 feet per bed, and to be concentrated in one area in so far as possible. Mechanical maintenance storage may be in a separate area.

Out-Patient Department

(If survey indicated that the out-patient department is unnecessary it may be omitted)

General:
- Out-patient department should be located on the most easily accessible floor. It should have convenient access to radiology, pharmacy, laboratory and physical therapy.
- The size will vary in different locations and is not necessarily proportional to the size of the hospital. The patient load must be estimated to determine the number of rooms required.

[1] Desirable but not mandatory.

An out-patient department may be combined with the public health center clinics if the health center is a part of the hospital.

Administrative:
- Waiting room with public toilets.
- Appointment and cashiers' office.
- Social service office.

Clinical:
- History or screening room.
- Examination and treatment rooms including eye, ear, nose, and throat room.
- Two chair dental unit.
- Utility room.

Contagious Disease Nursing Unit[1]

Patient rooms:
- A maximum of 2 beds in each room separated by a glazed partition.
- Patient rooms shall have a view window from corridor.
- Each patient room shall have a separate toilet and a lavatory in the room.

Each nursing unit shall contain:
- Nurses' station.
- Utility room.
- Nurses' work room.
- Treatment room.
- Scrub sinks strategically located in the corridor.
- Kitchen with separated dishwashing room adjacent.
- Doctors' locker and gown room.
- Nurses' locker and gown room.
- Janitors' closet.
- Storage closet.
- Stretcher alcove.

Pediatric Nursing Unit[1]

General:
- Each bed in a multi-bedroom shall be in a clear glazed crucible.
- Each room shall have a lavatory.
- Patients rooms wherever possible should have clear glazing between them and in the corridor partitions.

Minimum area:
- 80 square feet per bed in two-bed rooms and over.
- 100 square feet in single rooms.
- 40 square feet per bassinet in nurseries.

Each nursing unit shall contain:
- Nursery.
- Isolation suite.
- Treatment room.
- Nurses' station: with adjoining toilet room.
- Utility room.
- Floor pantry.
- Play room or solarium.
- Bath and toilet room: with raised free-standing tub and 50% children's fixtures.
- Bed pan facilities.
- Wheelchair and stretcher alcove.
- Janitors' closet.
- Storage closet.

[1] Desirable but not mandatory.

Psychiatric Nursing Unit in the General Hospital[1]

General: Layout and design of details to be such that the patient will be under close observation and will not be afforded opportunity for escape, suicide, hiding, etc. Care must be taken to avoid sharp projections of corners of structure, exposed pipes, heating elements, fixtures, etc., to prevent injury by accident.

Minimum room areas:
- 80 square feet per bed in 4-bed rooms.
- 125 square feet in single rooms.
- 40 to 50 square feet per patient in day rooms.

Each nursing unit shall contain:
- Doctors' office.
- Examination room.
- Nurses' station.
- Day room.
- Utility room.
- Bedpan facility.
- Pantry.
- Dining room.
- Toilet room.
- Shower and bathroom.
- Continuous tub room (for disturbed patients.)
- Patients' laundry.
- Patients' locker room.
- Storage closet (for recreational and occupational therapy).
- Stretcher closet.
- Linen closet.
- Supply closet.
- Janitors' closet.

(B-2). *Tuberculosis Hospital.*

Administration Department

From 50 up to and including 200 beds:
- Business office with information counter.
- Medical social service office.[2]
- Medical director's office.
- Secretary's office.
- Director of nurses' office.
- Physicians' offices: one for each 50 patients (including the medical director's office).
- Medical record and film filing room.
- Viewing room, library and conference room. Singly or in combination.
- Lobby and waiting room.
- Retiring room.
- Toilets for public and personnel.

Over 200 and up to 500 beds:
- Business office and information counter.
- Business manager's office.
- Secretary.
- Admitting office.
- Two medical social service offices.
- Medical director's office.
- Secretary.
- Assistant medical director's office.
- Director of nurses' office.
- Secretary.
- Assistant director of nurses' office.

[2] These facilities need not be provided if the Tuberculosis Hospital is in connection with a general hospital in which such facilities exist.

Physicians' offices: one for each 50 patients (including the medical director and assistant medical directors' offices.).
Medical record room.
Library and conference room.
Staff lounge and locker room.
Lobby and waiting room.
Retiring room.
Public toilets.
Personnel toilets.

Adjunct Diagnostic and Treatment Facilities

Laboratory:
From 50 up to and including 200 beds,[2] two rooms.
Over 200 and up to 500 beds: four rooms.

Basal metabolism and electrocardiography:
One room near the laboratory and convenient to Out-Patient Dept.

Morgue and autopsy:
From 50 up to and including 200 beds:[2] combination morgue and autopsy room with mortuary refrigerator.
Over 200 and up to 500 beds:
Morgue with mortuary refrigerator.
Autopsy room.
Shower and toilet room.
Separate exit.

Radiology:
From 50 up to and including 200 beds:[2]
Radiographic room.
Dark room.
Dressing booths.
Must be convenient to out-patient department as well as in-patients.
Over 200 and up to 500 beds:
Radiographic room.
Dark room.
Dressing booths.
Viewing room.
Roentgenologist's office.
Film file room.
Must be convenient to out-patient department as well as in-patients.

Pharmacy:
From 50 up to and including 200 beds: Drug room with minimum facilities for mixing. Must be convenient to out-patient department.
Over 200 and up to 500 beds: Complete pharmacy and may include space for manufacturing and solution preparation depending on policy of hospital. Must be convenient to out-patient department.

Dental and eye, ear, nose, and throat:
From 50 up to and including 200 beds:
One dental room.
One eye, ear, nose, and throat room.
Over 200 and up to 500 beds:
Two dental chairs.
Eye, ear nose, and throat room.
Waiting room.

Occupational therapy:
Library.
Barber shop.
Canteen.
Patient auditorium (1 seat for each bed up to 250 beds).
Flexible space for learning and working in crafts and class room for patient instruction shall be provided.

Nursing Department

General: At least 30 percent of the hospital beds shall be in single rooms. No room shall have more than four beds. Each room shall have a lavatory.

Size of nursing unit: No nursing unit shall be larger than 50 beds.

Minimum room areas:
80 square feet per bed in two- and four-bed rooms.
125 square feet in one-bed rooms.

Service rooms in each nursing unit:
Nurses' station.
Utility room.
Floor pantry (one per floor).
Toilet and washroom:
Water closets—1 to each 5 patients.
Lavatories—1 to each 5 patients.
Dental basins—1 to each 5 patients.
Storage closet for supplies.
Bath and shower room:
Bath tubs—1 to each 14 patients.
Shower—1 to each 7 patients.
Gown room.
Bed pan facilities.
Linen closet.
Janitors' closet.
Space for wheel chairs and stretchers.
Storage closet for equipment.

Doctors' office (including adjacent treatment room): One for each nursing unit.

Solarium: One for each nursing unit.

Sputum technique room: One for each nursing floor.

Nurses' toilet room: One for each nursing floor.

Nurses' cloak room: One for each nursing floor.

Surgical Department

(Shall be located to prevent traffic through it to any other part of the hospital)

From 50 up to and including 200 beds:[2]
Major operating room.
Sterilizing room.
Central supply and work room.
Scrub-up room.
Clean-up room.
Storage closet.
Janitors' closet.
Doctors' locker room with toilet and showers.
Nurses' locker room with toilet and showers.

Over 200 and up to 500 beds:
Major operating room: One for each 200 beds or major fraction thereof.
Minor operating and fracture room.
Sub-sterilizing room: One between each two operating rooms.
Clean-up room.
Scrub-up room: One between each two operating rooms.
Janitors' closet.
Storage room for sterile supplies.
Anesthesia storage.
Surgical supervisor office.
Doctors' locker room with toilet and shower.

[2] These facilities need not be provided if the Tuberculosis Hospital is in connection with a general hospital in which such facilities exist.

Nurses' locker room with toilet and shower.
Storage closet.
Stretcher alcove.
Central sterilizing and supply room divided into work space, sterilizing space, and sterile storage space.
Adjacent room for storage of unsterile supplies.

Pneumothorax suite:
Pneumothorax room with dressing booths.
Fluoroscopy room.
Waiting space.
From 50 up to and including 200 beds: One pneumothorax suite for 100 beds or major fraction thereof.
Over 200 and up to 500 beds: One pneumothorax suite for 100 beds or major fraction thereof.

Service Department

Dietary facilities:
Main kitchen and bakery.[2]
Dietitian's office and special diets kitchen.
Patients' dishwashing room.
Staff and help dishwashing room.
Adequate refrigeration.
Garbage refrigerator.
Can washing room.
Day storage room.
Help dining room.
Staff dining room.
Patients' dining space—to serve 40 percent of the patients.
Provide 12 square feet per person in dining rooms. May be designed for two seatings. Cafeteria or table service optional.

Housekeeping facilities:
Laundry:[2]
Sorting area.
Processing area.
Clean linen room.
Sewing room.
Laundry capacity shall be adequate to process full 7 days laundry in work week.
Housekeeper's office.
Incinerator.

Mechanical facilities:[2]
Boiler and pump room.
Engineers' office.
Shower and locker facilities.
Maintenance shops:
Carpentry.
Painting.
Plumbing.
For minimum requirements for mechanical and electrical work, see the respective sections.

Employees' facilities:
Nurses' locker room without nurses' home:
Locker room with lockers as required.
Rest room.
Toilet and shower room.
Where nurses' home is adjacent provide only rest room and toilet.

Female help locker room:
Locker room.
Rest room.
Toilet and shower room.
Male help locker room:
Locker room.
Rest room.
Toilet and shower room.

Storage:
General storage:
Record storage. Provide 20 square feet per bed to be concentrated in one area.

Out-patient department:[2]
Out-patient department should be located on most easily accessible floor. Must be convenient to radiology, pharmacy, and laboratory departments.
Size will vary in different locations and with the availability of other examination and diagnostic facilities, and is not necessarily proportionate to the size of the hospital. The estimated patient load will determine the number, size, and scope of individual facilities in out-patient department.
Facilities required:
Administrative:
Waiting room with public toilets.
Information, appointment and records office.
Medical social service office.
Janitors' closet.
Clinical:
History or screening room.
Examination rooms.
Dressing booths.
Pneumothorax rooms.
Fluoroscopy room.
Utility room.
Storage room.

(B-3). *Mental Hospital—General.* A mental hospital should be on a large acreage with ample space around all buildings for recreation, attractive landscaping and the proper segregation of the various patient classification groups and building functions; and should be readily accessible to the community which it is to serve.

The mental hospital presents a special problem of patient classification, treatment and supervisory function. In the following minimum requirements an over-all organization is designated with certain supervisory or organizational functions mentioned in their most desirable, but not mandatory, locations and these may, therefore, be changed to other locations.

Patients have been classified and grouped according to behavior, and requirements vary somewhat for each classification. Minimum room area requirements are grouped into the following main categories, as follows:

A. Medical and surgical, and chronic disease classification: 80 square feet per bed in four-bed rooms; 125 square feet in single rooms.

B. Tuberculosis classification: 80 square feet per bed in four-bed rooms; 125 square feet in single rooms.

[2] These facilities need not be provided if the Tuberculosis Hospital is in connection with a general hospital in which such facilities exist.

C. Reception, convalescent, chronic disturbed, industrial classifications. 70 square feet per bed in four or more bed rooms; 80 square feet in single rooms.

D. Infirm and inactive: 60 square feet per bed in four or more bed rooms; 80 square feet in single rooms.

Administration. This area shall include only the administrative, business and public contact functions of the institution.

Location: Near main entrance to institution and close to reception area.

General:
- Entrance lobby.
- Public toilets (male and female).
- Information and telephones (main switchboard).
- Post office.
- Personnel toilets (male and female).
- Mechanical room.

Offices:
- Director.
- Assistant director.
- Conference room.
- Business administrator.
- Business.
- Public relations and services.
- Secretaries.
- Janitors' closet.

Medical:
- Central records office.
- Central records room.
- Inactive records storage.

Reception. This area includes the reception and treatment of new patients, most of whom will be entering a mental hospital for the first time. Since they are new patients, and in need of very careful treatment, it is necessary to separate and prohibit contact between patients in the following classifications of behavior:

Quiet.
Depressed.
Disturbed.

In addition, each of the above classifications should be separated by sexes, and each classification should have its own complete Nursing Units with all nursing facilities available, and each should be readily accessible to an outdoor area. All safety and security measures should be observed in this group. Intensive care and treatment will be given these new patients in an effort to cure them in the first few weeks of treatment. Should the patient fail to recover in this comparatively short period of time he will be sent to other Nursing Areas for continued treatment. These other Nursing Areas will be classified according to the behavior of the patients which they are to house.

The Reception area should be set well apart from the other areas of the hospital, and should contain sufficient diagnostic, treatment, recreational and occupational facilities, to furnish complete treatment in order that these new patients may recover without having been transferred to the other areas of the Mental Hospital.

The number of beds required in this Reception Area must be determined by study of the total Receiving and Intensive Treatment Facilities in the community which is served. The total number of beds in this and the convalescent area should be in accord with the admissions within a three to six month period.

Location: Near administration area.

General:
- Lobby.
- Visitors' toilet (male and female).
- Main visitors room with alcoves.
- Janitors' closets.
- Mechanical room.

Administration:
- Medical records office.
- Information.
- Chief psychiatrist's office and conference room.
- Secretaries' offices.
- Clinical psychologist's office.
- Chief of nursing service and staff.
- Chief of social service and offices.
- Personnel toilets (male and female).

Staff facilities:
- Doctors' toilet room.
- Nurses' lounge and toilet room.

Admission:
- Ambulance entrance.
- Patients' bath and toilet.
- Utility room.
- Examination and consultation rooms.

Adjunct diagnostic and treatment facilities:
- Minor surgery.
- Portable X-ray storage room.
- Dark room.
- Small laboratory.
- Patients' toilet and shower.
- Small treatment room (for shock therapy, etc.).
- Patients' exercise room (directly accessible to outdoor exercise yard).

Occupational therapy:
- Occupational therapy room (to be located near quiet patient units).
- Storage closets.
- Occupational therapists' office.
- Barber shop.
- Beauty shop.

Nursing units: The following classifications of nursing units of 15 to 25 beds will be required:
- Quiet nursing units (male and female).
- Depressed nursing units (male and female).
- Disturbed nursing units (male and female).
- Suggested bed distribution of nursing units:

Each disturbed nursing unit:	*Patients*
Two 4-bed wards	8
Three 2-bed or 3-bed wards	6 or 9
Four or six 1-bed rooms	4 or 6
Two 1-bed rooms (isolation unit)[1]	2
Total	20 to 25

Each depressed nursing unit:	*Patients*
Two 4-bed wards	8
Two 3-bed alcoves	6
Four 1-bed rooms	4
(Isolation unit)[1]	2
Total	20

[1] Desirable but not mandatory.

Quiet unit: Same bed distribution as disturbed nursing units.
Facilities in each nursing unit:
- Doctors' consultation room (for each two units).
- Examination room.
- Nurses' station.
- Utility room.
- Bed pan facilities.
- Small dining room and pantry:
  - Essential for disturbed.
  - Convenient for depressed.
  - Unnecessary for quiet.
- Patients' locker room.
- Linen closet.
- Patients' shower and bath room.
- Patients' dressing room.
- Patients' toilets.
- Patients' wash room.
- Continuous tub room (for disturbed units).
- Day room (40 to 50 square feet per patient and preferably divided into one small and one large room).
- Occupational therapy storage closet.
- Janitors closet.

Dietary:
- Patients' dining room cafeteria service: this dining room will be used by patients from convalescent houses as well as from Reception area (two seatings may be used).
- Janitors' closet.
- Coat room and toilets (male and female).[1]
- Kitchen (serving).
- Dishwashing room (enclosed).
- Employees' toilet.
- Patients' toilet (male and female).
- Refrigerator garbage storage.
- Can washing room.

Convalescent. This area is considered a part of the reception area and will house new patients who have been sent from the reception building, and who are expected to recover within six months to a year. Most of these patients will have the same classification as those in the reception area. Small complete nursing units, separate for each sex, should be provided. Special treatment, such as mechanical fever, electric shock, special electro and hydro therapy, and insulin, etc., can be given in the reception building.

These patients will also use the dining room facilities of the reception area.

In general, while most of these patients are continuing to receive intensive treatment, they are well enough and manageable enough to go freely or be escorted to their activities.

The same security and safety measures are required as those for the reception area.

Location: Grouped by sexes on either side of and near reception area.
General:
- Entrance lobby.
- Visitors' room with alcoves.
- Visitors' toilet (male and female).
- Attendants' locker and toilet room.
- Mechanical room.

[1] Desirable but not mandatory.

Nursing units (to contain from 25 to 50 beds).
Suggested bed distribution of each nursing unit:

	Patients
One 8-bed ward	8
Four 4-bed wards	16
Eleven 1-bed wards	11
Total	35

Facilities in each nursing unit:
- Doctors' consultation room (for each two units).
- Examination room.
- Nurses' station.
- Utility room.
- Bed pan facilities.
- Pantry (one for each two nursing units).
- Patients' locker.
- Patients' toilet room.
- Patients' shower or bath room.
- Day room (40 to 50 square feet per patient—preferably divided into one large and one small room).
- Storage closet (occupational and recreational therapy equipment).
- Linen closet.
- Janitors' closet.
- Patients' wash room.
- One-third of the nursing units, for both men and women should have one continuous tub room.[1]

Chronic disturbed. This area should be separate from the main group of mental hospital facilities and set apart from the Nursing Areas of other patient classifications because of possible noise or other disturbance. It will be used to treat restless, noisy, assaultive or suicidal patients and must be designed to provide the greatest security and observation. Since these patients are very active it is necessary to have an outdoor area or exercise yard, and due to the amount of equipment and care these patients require, and the resulting necessary space for treatment, not less than two Nursing Units to a building are recommended.

Location: These buildings to be located away from the other Nursing buildings.
General:
- Entrance lobby.
- Visitors' room.
- Visitors' toilets (male and female).
- Beauty shop (female buildings).
- Barber shop (male buildings).
- Attendants' locker and toilet room.
- Pantry (for two nursing units).
- Mechanical room.
- Enclosed exercise yard (100 square feet per patient).

Treatment facilities:
- Hydrotherapist's office and toilet.
- Continuous tub room.
- Linen closet.
- Patients' dressing room.
- Janitors' closet.
- Exercise room (near outdoor exercise yard).
- Storage closet (for small gymnasium equipment).

Nursing units (to contain 20 to 30 beds):
Suggested bed distribution of each unit:

	Patients
One 8-bed ward	8
Two 4-bed wards	8
Ten 1-bed rooms	10
Total	26

Facilities in each nursing unit:
- Doctors' office with toilet (for each two units).
- Examination room.
- Nurses' station.
- Utility room.
- Patients' locker room.
- Patients' toilet room.
- Patients' wash room.
- Patients' shower and dressing room.
- Day room (40 to 50 square feet per patient). Preferably divided into (1) small room & (1) large room.
- Storage closet (recreational equipment).
- Occupational therapy room (one for each two units).
- Linen closet.
- Janitors' closet.

Dietary:
- Dining room—cafeteria service.
- Serving kitchen.
- Dishwashing room.
- Employees' toilet.
- Janitors' closet.

Infirm. This area will house patients who are in need of considerable medical care and who may be infirm. The very sick will be transferred to the medical and surgical building, but these patients will need constant and careful nursing. Minimum security and all safety measures will be required, and the nursing units should be complete with all facilities available and readily accessible to an out-door yard or area.

Location: Close to medical and surgical building.

General:
- Entrance lobby.
- Visitors' room.
- Visitors' toilets (male and female).
- Barber shop (male buildings).[1]
- Beauty shop (female buildings).[1]
- Attendants' locker and toilet room (male and female).
- Mechanical room.
- Enclosed yard (40 square feet per patient).[1]

Nursing units (to contain 30 to 60 beds) suggested bed distribution for each unit:

	Patients
Two 10-bed wards	20
Four 4-bed wards	16
Four 1-bed rooms	4
Total	40

Facilities in each nursing unit:
- Doctors' office (for each 3 units).
- Examination room.
- Nurses' station.
- Utility room.
- Bed pan facilities.
- Pantry and dining room (one for each two units).
- Patients' locker room.
- Patients' wash room.
- Patients' toilet room.
- Patients' dressing room.
- Patients' shower or bath rooom.
- Day room (30 square feet per patient).
- Storage closet (for recreational and occupational therapy equipment).
- Linen closet.
- Wheel chair and stretcher closet.
- Janitors' closet.

Dietary:
- Serving kitchen.
- Dishwashing room.
- Employees' toilet.
- Janitors' closet.

Inactive. This area will house patients who are lethargic. They need a considerable amount of attention, most of which will be furnished by the physical therapist and occupational therapist. They will be urged into activities furnished in the occupational and recreational therapy buildings, but some of the lighter occupational and physical therapy should be provided in this area. All security and safety measures will be required.

Location: In main group of nursing buildings and near gymnasium and recreation buildings.

General:
- Entrance lobby.
- Visitors' room.
- Visitors' toilets (male and female).
- Occupational therapy room (one to each two nursing units).
- Attendants' locker and toilet room.
- Mechanical room.
- Enclosed yard (100 square feet per patient).[1]

Nursing units (to contain 30 to 50 beds) suggested bed distribution (of each unit):

	Patients
Three 10-bed wards	30
Two 4-bed wards	8
Four 1-bed rooms	4
Total	42

Facilities in each nursing unit:
- Doctors' office (for each 3 units).
- Examination room.
- Nurses' station.
- Utility room.
- Bedpan facilities.
- Pantry (for each 2 units).
- Patients' locker room.
- Patients' wash room.
- Patients' toilet room.
- Patients' shower or bath room.
- Patients' dressing room.
- Day room (40 to 50 square feet per patient and preferably divided into one small and one large room).
- Storage closet (for recreational and occupational therapy equipment).
- Linen closet.
- Janitors' closet.

Dietary:
- Dining room.
- Serving kitchen.
- Dishwashing room.

[1] Desirable but not mandatory.

Employees' toilet.
Janitors' closet.

Industrial. This area will house patients who are well enough to be occupied on the grounds, farm, industrial buildings, shops, kitchens, laundry, etc. Less supervision and care is necessary than in the other groups, and these patients can go to the out-patient department of the medical and surgical building for examination and treatment.

Location: In main group of nursing buildings near service buildings.

General:
- Entrance lobby.
- Visitors' room.
- Visitors' toilets (male and female).
- Attendants' locker and toilet room.
- Mechanical room.

Nursing units (to contain 40 to 60 beds) suggested bed distribution:

	Patients
Two 16-bed wards	32
Two 8-bed wards	16
Four 1-bed rooms	4
Total	52

Facilities in each nursing unit:
- Doctors' office and examination room—one for each 3 units.
- Nurses' station.
- Patients' toilet.
- Patients' dressing room.
- Patients' shower room.
- Patients' locker room.
- Patients' wash room.
- Day room (40 to 50 square feet per patient) preferably divided into one small and one large room.
- Storage closet (for recreation equipment).
- Linen closet.
- Janitors' closet.

Medical and surgical. This area will house patients who have been hospitalized from Nursing Units of other classifications for short periods of illnesses, and should be housed in a modern general hospital complete with all facilities to serve the entire mental hospital community. Nursing Units should be arranged for easy segregation of patients and the Adjunct Diagnostic and Treatment facilities are recommended to be on the first or ground floor for easy access to the out-patient department. All security and safety measures should be incorporated in this building. The number of beds shall be approximately 4 percent of the total patients which this building serves.

Location: Between main group of nursing area and reception area.

General:
- Entrance lobby.
- Information counter.
- Visitors' toilets (male and female).
- Mechanical room.

Administration:
- Chief physicians' office.
- Medical record room.
- Head nurse's office.
- Secretaries' offices.
- Personnel toilets (male and female).

Staff facilities:
- Doctors' locker and shower rooms.
- Nurses' locker and shower room.

Adjunct diagnostic and treatment facilities:
- Laboratory: Separate spaces for office, clinical, pathology, bacteriology and serology, washing, and sterilizing.
- Basal metabolism and electrocardiography: Near laboratory and convenient to out-patient department.
- Morgue and autopsy room:[1] Combination morgue and autopsy with mortuary refrigerator.
- Radiology:
  - Radiographic room with an adjoining dark room and office.
  - X-ray therapy suite.[1]
- Physical therapy: Suite for electro-therapy, stimulative hydro-therapy, and exercise room with adjoining office.
- Pharmacy: Drug room with minimum facilities for mixing. (May be in service area).

Nursing units (to contain from 15 to 30 beds) suggested bed distributions:

Medical wards (25 beds each):

	Patients
Two 4-bed wards	8
Three 2-bed rooms	6
Nine 1-bed rooms	9
Isolation suite[1]	2
Total	25

- Surgical wards (25 beds each) same as medical wards.
- Employees' wards:[1] Maximum size, 25 to 30 beds.

NOTE: Where isolation suite or contagious disease nursing unit is available the small units in each nursing unit are not required.

Facilities in each nursing unit:
- Doctors' examination room (one for each two nursing units).
- Nurses' station.
- Utility room.
- Bed pan facilities.
- Pantry (one for each two nursing units).
- Patients' bath and shower room.
- Supply closet.
- Patients' toilet room (male and female).
- Day room (approximately 25 square feet per patient). Omit for employees' wards.
- Storage closet (recreational and occupational therapy equipment).
- Stretcher and wheel chair closet.
- Linen closet.
- Janitors' closet.

Surgical department: Should be located to prevent traffic through it to any other part of hospital.

Operating rooms:
- Major: One for each 50 beds up to and including 200 beds. Above 200 beds the number of operating rooms will be based on the expected average of daily operations.
- Minor: One in each hospital over 50 beds.
- Cystoscopy:[1] One in each hospital over 100 beds. Shall have an adjoining toilet room.

[1] Desirable but not mandatory.

Fracture room: One in each hospital over 100 beds. Shall have an adjoining splint room.

Auxiliary rooms:
- Substerilizing room: One between each two operating rooms in hospitals of 50 beds and over.
- Scrub-up room: One between each two operating rooms.
- Nurses' locker room with toilet and shower.
- Instrument room beginning at 100 beds.
- Clean-up room.
- Anesthesia equipment storage.
- Surgical supervisor station.
- Doctors' locker room with toilet and shower.
- Storage closet.
- Stretcher closet.
- Storage room for sterile supplies beginning at 100 beds.
- Janitors' closet.
- Dark room beginning at 100 beds.

Central sterilizing and supply room:
- Divided into work space, sterilizing space and sterile storage space.
- Adjacent room for storage of unsterile supplies.

Emergency department:
- Ambulance entrance.
- Receiving bath and toilet.
- Utility room.
- Supply and stretcher storage.
- Emergency operating room, near out-patient department.

Service department:
- Kitchen (serving).
- Dishwashing room.
- Refrigerated garbage room.
- Can washing room.
- Dining rooms (for ⅓ of patients).
- Storage.
- General storage (20 square feet per bed).
- Housekeepers' office.
- Linen storage room.
- Sewing room.
- Linen sorting room.
- Personnel facilities.
- Locker and toilet room (male and female).
- Attendants' locker and toilet room (male and female).

Out-patient department:
- Waiting room.
- Examination and treatment room (including eye, ear, nose and throat rooms and gynecology room).[1]
- Record room.
- Dental suite (2 chairs).
- Electroencephalographic unit.

NOTE: Out-patient department should be convenient to radiology, laboratory, therapy, emergency, etc.

Chronic disease. This area will house patients who have chronic illness, or who are in need of intensive treatment and nursing care or those who, because of infectious diseases, need to be isolated.

[1]Desirable but not mandatory.

Nursing Units of this classification should be attached to the Medical and Surgical building for easy access to the Diagnostic and Treatment facilities.

Not all of these Nursing Units need have maximum safety and security measures.

The number of beds shall be approximately 2 percent of the total number of patients which these buildings serve.

Location: Attached to medical and surgical building.

General: Corridors to service department and adjunct facilities.

Nursing units (to contain from 15 to 30 beds) suggested bed distribution (of each nursing unit)

	Patients
Two 4-bed wards	8
Three 2-bed wards	6
Eight 1-bed rooms	8
Total	22

Facilities in each nursing unit:
- Doctors' office (for each 2 units).
- Examination room.
- Nurses' station.
- Utility room.
- Bed pan facilities.
- Pantry (for each 2 nursing units).
- Dining room (for ½ of patients in nursing unit).
- Patients' locker room.
- Patients' wash room.
- Patients' toilet.
- Patients' dressing room.
- Patients' shower or bath room.
- Day room (30 square feet per patient).
- Closet (recreational and occupational therapy equipment).
- Stretcher and wheel chair closet.
- Linen closet.
- Janitors' closet.

Tuberculosis. For patients of this classification, it is recommended to use the requirements of the tuberculosis hospital. In addition, patients will be grouped according to behavior as Quiet or Disturbed. Security and safety measures comparable to those of the Reception Area are required.

The number of beds shall be determined as approximately 5 percent of the total patients which this building serves.

Gymnasium, Theater, Recreation, Library and Chapel

(Combination or separate buildings acceptable)

Location: Adjacent to main group of nursing and reception areas.

General:
- Entrance lobby.
- Coat rooms and toilets (male and female).
- Personnel toilets (male and female).
- Mechanical room.

Theater facilities:
- Office.
- Hall (seating capacity based on 7 square feet per person with 40 percent attendance of patients and personnel).
- Projection booth.

Stage.
Dressing rooms with toilets (two for each sex).
Work shop.
Chapel facilities:
Three offices for ecclesiastics.
Toilets.
Three small prayer rooms.
Portable altars (where chapel is not separate).
Storage rooms.
Gymnasium facilities:
Recreational therapists' office.
Personnel locker and toilet room (male and female).
Patients' locker and toilet rooms (male and female).
Basketball court (standard college size plus space for collapsible seating).
Small gymnasium (for exercise equipment).
Storage rooms.
Recreation facilities:
Chief recreational therapist's office.
Bowling alleys (with space for spectators).
Billiard room.
Ping pong room.
Patients' barber shop.
Patients' beauty shop.
Canteen (for light lunch, drinks, etc).
Office and table areas.
Cooking and fountain areas.
Dishwashing and sterilizing.
Storage.
Garbage refrigeration.
Can washing.
Sales rooms.
Storage room.
Library:
Librarians' office.
Reading room (current and request matter).
Stock room.
Work room and storage space.
Music rooms:
Music therapists' office.
Music room (approximately 500 square feet with portable stage).
Store rooms.
Music rooms (approximately 250 square feet).

Occupational Therapy

Location: Adjacent to main group of nursing areas and reception area.
General:
Entrance lobby.
Patient coat room and toilets (male and female).
Personnel coat room and toilets (male and female).
Mechanical room.
Administration: Office for occupational therapist.
Facilities:
Open floor space (for occupational equipment).
One or more special purpose rooms.
Storage rooms (for materials and equipment).
Industrial therapy occupations should be located near the service group of buildings.

Central Kitchen and Dining Rooms

Location: In main group of Nursing buildings.
General: load on dining rooms, kitchens and preparation will vary; see requirements of each.
Men patients' coat room and toilet.[1]
Women patients' coat room and toilet.[1]
Men attendants' coat room and toilet.
Women attendants' coat room and toilet.
Dining rooms: patients' and personnel (capacity 15 square feet per person).
Kitchen:
Dietitians' office and toilet.
Diet kitchen.
Complete cooking and baking facilities.
Dishwashing room.
Preparation (meat and vegetables).
Refrigerated storage.
Day storage.
Garbage refrigeration and can washing room.
Janitors' closet.
Personnel lockers and toilets.

Storage Buildings

Location: In service groups of buildings.
General: Area (20 square feet per patient).

Laundry

Adequate to process seven full days of laundry per work week.
Location: In service group of buildings.
Facilities:
Manager's office and toilet.
Receiving room.
Sorting area.
Contaminated receiving room.
Sterlizing room.
Clean linen storage.
Sewing room.
Personnel locker and toilet room.

Heating plant

Location: In service group of buildings.
General:
Heating plant (to be determined by engineering studies).
Emergency generating facility.
Office.
Personnel toilets.
General repair shop.
Carpenter shop.
Electrical shop.
Plumbing shop.
Paint shop.

Incinerator

Location: Removed from building areas.
General: For trash, kitchen refuse, etc. (size to be determined by engineering study).

(B-4). *Psychiatric hospital—General.* The principles of psychiatric safety shall be followed throughout. Materials and details of construction shall be such that patients will

[1]Desirable but not mandatory.

not be afforded opportunity for escape, suicide, etc. Care must be taken to avoid sharp projections of corners of structure, exposed piping, heating elements, fixtures, hardware, etc.

For requirements of sizes of doors, widths of corridors, sizes of elevators, provisions for ventilation, fire protection, etc., see section on Details, Finishes, etc.

Administration Department

Up to and including 100 beds:
- Business office with information counter.
- Chief psychiatrist's office.
- Chief psychologist's office (if there is no out-patient department).
- Record office.
- Director of nurses' office.[1]
- Social service offices (if there is no out-patient department to be near receiving).
- Staff lounge.
- Lobby.
- Public toilets.

From 100 to 500 beds:
- Business office.
- Chief psychiatrist's office.
- Chief psychologist's office (if there is no out-patient department).
- Social service offices (if there is no out-patient department).
- Director of nursing.
- Record room.
- Staff lounge.
- Library and conference room.
- Lobby.
- Public toilets.
- Toilets for administrative personnel.

Receiving Department

Facilities for male and female receiving:
- Entrance hall.
- Dressing room.
- Bath and toilet room.
- Medical examination room.
- Waiting room.
- Stretcher closet.
- Clerks' offices.
- Doctors' office.

Adjunct Diagnostic and Treatment Facilities

Laboratory:
- Up to and including 100 beds:
  - Office.
  - Laboratory.
- Over 100 beds: Separate spaces for office, clinical pathology, bacteriology, washing and sterilizing.

Basal metabolism and electrocardiography:
- Up to and including 100 beds: No special provision necessary.
- Over 100 beds: Room near laboratory and convenient to out-patient department.

Morgue and autopsy: Combination morgue and autopsy with mortuary refrigerator. (Is not required in hospital of less than 100 beds if similar facilities are available nearby.)

Two chair dental suite.

Eye, ear, nose and throat suite.

Electro-encephalographic suite.

Radiology:
- Up to and including 100 beds: One radiographic room and dark room and convenient to out-patient department.
- Over 100 beds: At least one additional radiographic room.

Physical therapy:
- Electro-therapy.
- Hydro-therapy with exercise space.
- Continuous tub and pack room.
- Small gymnasium, convenient to outdoor area, and to disturbed patients.

Pharmacy: One room with minimum facilities for compounding.

Occupational therapy:
- Space for small woodworking tools and benches for carpentry, metal work, leatherwork, printing, weaving, rug making, etc.
- Office.
- Storage room.

Surgical Department

Operating rooms.
- Major: One.
- Minor: One, with adjoining splint room.

Auxiliary rooms:
- Sub-sterilizing room (one between two operating rooms).
- Scrub-up room (one between two operating rooms).
- Clean-up room.
- Anesthesia room.[1]
- Anesthesia storage.
- Doctors' locker room with toilet.
- Nurses' locker room with toilet.
- Storage closet.
- Stretcher closet.
- Janitors' closet.
- Storage room for sterile supplies and instruments.
- Surgical department to be located to prevent traffic through it from other parts of the hospital.
- Central sterilizing and supply room—divided into work space, sterilizing space, and sterile storage—adjacent room for storage of unsterile supplies.

Nursing Department

General: The layout and the design of details to be such that the patient will be under close observation and will not be afforded opportunity for escape, suicide, hiding, etc. Provision shall be made for the following classifications:
- New admissions (male).
- New admissions (female).
- Quiet ambulant (male).
- Quiet ambulant (female).
- Medical and surgical.
- Disturbed (male).
- Disturbed (female).
- Alcoholic (male).
- Alcoholic (female).
- Criminalistic (male).
- Criminalistic (female).
- Children.

Minimum room areas:
- 80 square feet per bed in four-bed rooms.

[1] Desirable but not mandatory.

125 square feet in single rooms.
40 to 50 square feet per patient in day rooms and preferably divided into one large and one small room.
Facilities for each nursing unit:
Doctors' office and examination room.
Nurses' station and toilet.
Day rooms.
Utility room.
Pantry.
Dining room.
Wash room and toilets.
Patients' locker.
Shower and bath room.
Storage closet (for recreational and occupational therapy.
Supply closet.
Linen closet.
Janitors' closet.
Stretcher closet.[3]
Bed pan facilities.[3]
Isolation suite: In medical and surgical unit.

Service Department

Dietary facilities:
Main kitchen and bakery.
Special diet kitchen.
Dietitians' office.
Dishwashing room.
Adequate refrigerators.
Garbage Refrigerator
Can washing room.
Day storage room.
Staff dining room (12 square feet per person).
Housekeeping facilities:
Laundry (if provided): Capacity shall be adequate to process full 7 days laundry in work week.
Sorting area.
Processing room.
Clean linen and sewing room separate from laundry.
Housekeeper's office: Near linen storage.
Mechanical facilities:
Boiler room and pump room (if provided).
Engineers' office.
Shower and locker room.
Maintenance shops—carpentry, painting, mechanical repair rooms.
Employees' facilities:
Nurses' locker rooms. If no nurses home:
Locker room.
Rest room.
Toilet and shower room.
Attendants' locker rooms. If no attendants home (male and female):
Locker room.
Toilet and shower rooms.
Other female help lockers:
Locker room.
Rest room.
Toilet and shower room.
Other male help lockers:
Locker room.
Toilet and shower room.
Storage:
Record space.
General storage: 20 square feet per bed and to be concentrated in one area.

[3] Medical and surgical unit.

Out-Patient Department (if provided)

General:
Located on the ground floor with entrance separate from main entrance of hospital. It must be convenient to radiology, laboratory and physical therapy.
The patient load must be estimated in order to determine the number of consultation and examining rooms.
Facilities required:
Administrative:
Waiting room with public toilets.
Cashiers' and appointment office.
Social service offices.
Psychological examination rooms.
Utility rooms.
Children's rooms.

(B-5). *Chronic Disease Hospital—Intensive Nursing Section.*

Administration (for infirmary and home):
Business office with information counter, telephone switchboard, and cashiers' window.
Administrator's office.
Medical director's office.
Medical record room.
Medical social service office.
Combination conference room and doctors' lounge.
Lobby and waiting room.
Public toilets.
Personnel toilets.

Adjunct Diagnostic and Treatment Facilities

Laboratory:
Two rooms for analyses.
Sterilizing and glasswashing room.
Pathologist's office.
Basal metabolism and electrocardiography: One room convenient to Out-Patient Department and laboratory.
Morgue and autopsy: Combination morgue and autopsy with mortuary refrigerator.
Radiology:
Each hospital to have at least one radiographic room with toilet, adjoining dark room and film filing space.
The radiology department must be convenient to in- and out-patients and shall have lead protection as required.
Physical therapy: Space should be provided for electrotherapy, massage, hydrotherapy, and exercise.
Pharmacy: Drug room with minimum facilities for compounding. Complete pharmacy may include space for manufacturing and solution preparation depending on policy of hospital. Must be convenient to Out-Patient Department.
Service rooms required:
Patients' waiting room.
Toilets.
Nurses' office.
Eye, ear, nose and throat room.
2 chair dental unit.
Utility room.
Doctors' office.
Treatment room also used as emergency operating room.
Record room.
Nurses' and staff locker space.
Examination cubicles.

Out-Patient department:[1]
- If out-patient department is added, in addition to above named service rooms the following space will be required:
  - Out-patient waiting room with toilets.
  - Admission office.
  - Medical social service office.
  - Information and cashier space.
- Out-patient department should be located on the most easily accessible floor with an entrance separate from the main entrance to the hospital. It must be convenient to radiology, pharmacy, laboratory, and physical therapy.
- The size will vary in different locations and is not necessarily proportional to the size of the hospital. The patient load must be estimated to determine the number of rooms required.

Nursing Department

General: No room shall have more than 6 beds and not more than 3 beds deep from outside wall. Each room shall have a lavatory. Each nursing unit shall have a quiet room.

Size of nursing unit: 40 to 50 beds.

Minimum room areas:
- 125 square feet in single rooms.
- 96 square feet per person in larger rooms.

Service rooms in each nursing unit:
- Nurses' station.
- Utility room.
- Floor pantry.
- Toilet room for each sex.
- Bed pan facilities.
- Day room.
- Wheel chair parking area.
- Treatment room, one for each 2 nursing units a floor.
- One bath room.
- Stretcher alcove.
- Linen closet.
- Supply closet.
- Janitors' closet.
- Solarium: One for each nursing floor.
- Nurses' toilet: One for each nursing floor.

Service Department

Dietary facilities:
- Main kitchen and bakery.
- Special diet kitchen.
- Dietitians' office.
- Dishwashing room (enclosed).
- Adequate refrigeration.
- Garbage refrigerator.
- Can washing facilities.
- Day storage room.
- Personnel dining space: Provide 12 square feet per person. May be designed for 2 sittings, cafeteria, or table service optional.

Housekeeping facilities:
- Laundry:
  - Sorting area.
  - Processing area.
  - Clean linen and sewing room separate from laundry.
- Provision of laundry facilities in hospital will depend upon hospital policy and availability of commercial laundry.
- If laundry is provided, capacities shall be adequate to process full 7 days' laundry in work week.
- Housekeeper's office: Located adjacent to laundry, or if no laundry is provided near central linen supply.

Mechanical facilities:
- Boiler and pump room.
- Engineers' office.
- Maintenance shops.
- Shower and locker facilities.
- In hospitals up to and including 100 beds at least one room shall be provided. In larger hospitals separation of carpentry, painting and plumbing should be provided.
- For minimum requirements for mechanical and electrical work see the respective sections.

Employees' facilities:
- Nurses' locker room without Nurses' home:
  - Locker room with locker for each 4 hospital beds.
  - Rest room.
  - Toilet and shower room.
- Female help lockers:
  - Locker room.
  - Rest room.
  - Toilet and shower room.
- Male help lockers:
  - Locker room.
  - Toilet and shower room.
- Ratio of male and female help will vary and size of locker rooms must be adjusted accordingly.

Storage:
- Inactive record storage.
- Patients' clothes storage room.
- General storage: 20 square feet per bed and to be concentrated in one area.

Ambulant Patient Section

General: Centrally located facilities connected to Intensive Nursing Section, capable of operating jointly, or each of them, detached, providing the best possible flexibility and future extension.

Dining hall: Provide minimum of 16 square feet per person. May be designed for two sittings. Table service, with food prepared in main kitchen of intensive nursing section.

Canteen.

Auditorium:
- Seating capacity capable of seating entire ambulant population of institution.
- Ample space for wheel chairs.
- Arrangement for religious services.
- Wash rooms and toilets.
- Projection facilities.

Beauty parlor and barber shop.

Occupational therapy:
- Office space for the occupational therapist.
- One exhibition space.
- Space 50-60 feet long divided for diversified occupational therapy work.

Recreational therapy:
- Office space for the recreational therapist.
- Class room or rooms.
- Social room or rooms to be at the disposal and use of patients.
- Patients' library facilities.

[1]Desirable but not mandatory.

Bedroom unit:
Room:
Size 300 square feet (for 2 patients).
Closet for each person.
Lavatory in each room.
Common facilities:
Toilet and washroom:
Water closets—1 to each 5 patients.
Lavatories—1 to each 5 patients.
Dental Basins—1 to each 8 patients.
Bath tub or shower—1 to each 8 patients.
Janitors' closet each unit.
Linen closet each unit.
Supervisors' room each unit.
Living room and visitors' lounge.
Solarium.
Telephone booths.
Nurses' call system.
General facilities:
Employees' toilet and locker room.
Storage—reserve equipment.
Storage for patients' personal belongings.

(B-6). *Nurses' home.*

Rooms:
One nurse per room:[1]
120 square feet in single rooms.
150 square feet in double rooms.
Lavatory in each room.
Closet for each nurse.
Common floor facilities:
Lounge with kitchenette to serve approximately each 30 students.
Laundry room with two trays and two ironing boards to serve approximately each 30 students.
Bath room: One shower or tub for each 6 beds.
Toilet room: One water closet for each 6 beds and one lavatory for each 12 beds.
Linen closet.
Janitors' closet.
Telephone facilities.[1]
General facilities:
Lobby.
Office.
Main lounge with alcoves.
Men's toilet (off lobby).
Storage room for trunks.
General storage room.
Laundry distribution room.
Employees' toilet room.
Boiler room (if facilities not available elsewhere).

(B-7). *School of Nursing.*

Teaching facilities:
One science laboratory room.
One dietetics laboratory room.
One nursing arts laboratory with adequate facilities (laboratories to provide facilities for not more than 20 and not less than 12 students).
One classroom to accommodate approximately twice the number of students as a laboratory.
One lecture room to accommodate total student body.
One library.
Offices: Offices for instructors.

[1] Desirable but not mandatory.

General:
Storage room convenient to classrooms.
Toilet room.
Janitors' closet.

(B-8). *Public Health Centers.*

Administration:
Where health department administration personnel has no offices in healtb center:
Waiting room.
Public toilets.
Office for public health nurses.
Staff toilets.
Assembly space: Waiting room may be used for this purpose where health centers serve under 30,000 population.
Where health department administration offices are provided in health centers add:
Health officer's office.
Office for sanitary engineers.
Health education office.
Staff room and library: In health center for over 30,000 population.
Clinical: The clinical services, and extent of such services, provided in the health center will depend on the program contemplated by the health department to take care adequately of the particular needs of the population served by the health center.
For populations up to 30,000:
Two examination rooms for maternal and child health, V. D. and TB clinics.
Consultation room.
Utility room.
Dental room.
For population over 30,000, if the following services are provided, they shall include areas noted as follows:
Maternal and child health:
Demonstration room.
Examining room.
Toilet.
Tuberculosis and X-ray:
X-ray room with dressing booths.
Dark room.
Consultation and viewing room.
Venereal disease:
Examination room.
Treatment room.
Consultation room.
Toilet.
Dental:
2 Dental chairs.
Small dental laboratory.
Pharmacy: Dispensing room.
Laboratory:
The volume and type of laboratory tests in the health center will vary with local conditions and will determine the size of the laboratory. Such factors as density of population, area to be served, type of center (municipal, county, or rural), its use as a branch of the State Laboratory and availability of other laboratory facilities must be considered.
One room is required for urinalysis, hematology, and dark field examinations for syphilis and storage of biologicals

furnished by the State Health Department.
Where food control, sanitation and communicable disease work is contemplated another room shall be furnished for this purpose.

Service:
General storage areas:
Bulk office and janitors' supplies.
Bulk clinical supplies.
Educational material.
Storage closets:
Office supplies.
Medical supplies.
Educational material.
Janitors' closet: Centrally located.
Heating plant.

(B-9). *State Public Health Laboratory.*

Administration department:
Director's office.
Secretary's office.
Assistant Director's office.
Information desk and switchboard.
Clerical office.
Office supply room.
Library.
Staff meeting room.
Records and filing room.
Mailing and receiving room for incoming specimens, distribution of containers and of biologicals.
Specimen and emergency treatment room.
Bacteriology department:
Office.
Water, food and milk laboratory.
Enteric disease and agglutination laboratory.
Tuberculosis laboratory.
Diagnostic laboratory.
Incubator room.
Sterile room.
Rabies room.
Adequate refrigeration.
Syphilis serology department:
Office.
Laboratory: Section of room separated by partitions for centrifuges and preparation of specimens.
Chemistry department:
Office.
Laboratory: Facilities for water, food, drug, toxicology, and/or industrial hygiene analyses.
Instrument room: Facilities for darkening.
Research and investigation:
Laboratory: Complete laboratory facilities within unit.
Biologicals department:
Adequate refrigeration.
Deep freeze unit.
Room temperature storage.
Central services:
Culture media and reagent preparation room.
Glassware cleaning room: Separate sterilizing facilities for contaminated materials.
Acid cleaning unit.
Sterilizing room for culture media and clean glassware only.
Supply room for storage and issue of sterile supplies, general supplies, chemicals, and glassware. Adjacent to sterilizing and glassware cleaning room.
Bulk storage room.
Janitor service room.
Maintenance and utilities unit: Provisions for metal and woodwork, and glassblowing.
Incinerator (animal).
Animal quarters:
Animal rooms.
Room for cleaning and sterilizing cages.
Preparation room for food and bedding.
Operating and animal inoculation room.
Facilities for personnel:
Men's locker room with washroom and shower.
Women's locker room with washroom and shower.
Rest room.
Lunch room.
Staff toilets.

State public health laboratory. If the following activities are included, minimum requirements will be as follows:

Consultation and evaluation service to local laboratories:
Office.
Laboratory.
Manufacture of biologicals:
Office.
Laboratory: Cubicles for isolation work.
Culture media room.
Sterile room.
Sterilizing room.
Glasswashing room.
Adequate refrigeration.
Deep freeze unit.
Storage room, controlled temperature.
Packaging room.
Blood and blood products:
Laboratory: Space and equipment for processing.
Sterile room.
Office (may be shared with biologicals department).
Adequate refrigeration (may be shared with biologicals department).
Storage room (may be shared with biologicals department).
Pathology department: Laboratory.
Clinical laboratory department: Laboratory.
Virology department: This department shall be efficiently isolated from other laboratories including a separate mechanical ventilating system:
Office.
Laboratory: Cubicles for isolation work.
Sterile room.
Sterilizing room.
Inoculation and operating room.
Animal quarters:
Facilities for storage of food and bedding.
Cleaning and sterilizing of cages.
Locker room with washroom and shower.

(B-10). *Details, finishes, etc.* The following general requirements and finishes apply to all hospitals. Conditions in special hospitals, not covered in the general requirements, are specifically noted.

General Requirements for Hospitals

Door widths:
- 3 feet 10 inches at all: Bed rooms.
  - Treatment rooms.
  - Operating rooms.
  - X-ray therapy rooms.
  - Delivery rooms.
  - Solariums.
  - X-ray rooms.
  - Physical therapy rooms.
  - Labor rooms.
- 5 feet at all: Fracture rooms.
- No doors shall swing into the corridor except closet doors.[4]

Corridor widths: 7 feet, 6 inches, (8 feet preferred). A greater width shall be provided at elevator entrances.

Stair widths: Clear width between rails—3 feet, 8 inches.

Elevators: Platform size—5 feet 4 inches x 8 feet. Door opening—3 feet 10 inches. See also mechanical section.

Laundry chutes: Use optional. Where used 2′ 0″ minimum diameter.

Incinerators: Use optional. See also mechanical section.

Nurses' call system:[4] Call station between each two beds in two-bed rooms and four-bed rooms and one in each one-bed room:
- Corridor dome light over each nursing room.
- Dome light and buzzer at nurses' station, utility room and floor pantry.

Fire protection: Exits, exit lights, fire towers, construction equipment, etc., shall conform to local and State codes and the National Board of Fire Underwriters.

Mechanical ventilation: See mechanical section for details.

Chronic Disease Hospitals

Space allowances should be more generous than in other types of hospitals to allow for wheelchair traffic in such areas as dining rooms, recreation rooms, porches and toilets.

Corridors shall be 10 feet wide with handrails on both sides.

Allow wheelchair storage area in infirmaries at the rate of one wheelchair for each two patients.

Water closet enclosures to have handrails on both sides.

Urinals to have vertical bars on each side.

Lavatories to be supported on brackets to allow wheelchairs to slide under.

Raised thresholds at doorways shall be omitted.

Mental Hospitals, Psychiatric Hospitals and Mental Units in General Hospitals

The principles of psychiatric security and safety shall be followed throughout. Materials and details of construction shall be such that patients will not be tempted to escape, suicide, hiding, etc. Care must be taken to avoid projecting sharp corners, exposed piping, heating elements, fixtures, hardware, etc.

[4] Does not apply to: mental hospitals, psychiatric hospitals or mental units in general hospitals.

Public Health Centers

Width of corridors shall be not less than 5′ 0″. Greater width preferred.

Windows of examination and treatment rooms shall be glazed with obscure glass to insure privacy.

State Public Health Laboratories

Provide separate airconditioning or ventilation system for bacteriological and virus laboratories with ample supply and exhaust to function properly with closed windows.

Emergency showers shall be provided in chemical laboratories.

Each chemical laboratory room shall have a minimum of two exits.

All windows must be screened.

(B-11). *Finishes.*

Floors:
- The floors of the following areas shall have smooth, waterproof surfaces which are wear resistant:
  - Toilets.
  - Baths.
  - Bedpan rooms.
  - Floor pantries.
  - Utility rooms.
  - Treatment rooms.
  - Sterilizing rooms.
  - Janitors' closets.
- The floors of the following areas shall be smooth, easily cleaned and acid resistant:
  - Pharmacies.
  - Laboratories.
- The floors of the following areas shall be waterproof, greaseproof, smooth and resistant to heavy wear:
  - Kitchens.
  - Butcher shops.
  - Food preparation.
  - Formula rooms.
- The floors of the following areas shall have conductive flooring as approved by the National Board of Fire Underwriters:
  - Operating rooms.
  - Delivery rooms.
  - Anesthesia rooms.
  - Adjoining spaces.
- The floors in the following areas shall have a smooth resilient surface which is easily cleaned: Patient rooms.

Walls:
- The walls of the following areas shall have a smooth surface with painted or equal washable finish in light color. They shall be without cracks and, in conjunction with floors, shall be waterproof and free from cracks and spaces which may harbour ants and roaches: All rooms where food and drink are prepared, served or stored.
- The walls of the following areas shall have waterproof painted, glazed or similar finishes to a point above the splash or spray line:
  - Kitchens.
  - Sculleries.
  - Utility rooms.
  - Baths.
  - Showers.

Dishwashing rooms.
Janitors' closets.
Sterilizing rooms.
Spaces with sinks.

The walls of the following areas shall have waterproof glazed, painted or similar surface which will withstand washing to a distance of not less than 5′ 0″:
Operating rooms.
Delivery rooms.

Ceilings:

The ceilings of the following areas shall be painted with waterproof paint:
Operating rooms.
Delivery rooms.
All sculleries, kitchens and other rooms where food and drink are prepared.

The ceilings of the following areas shall be acoustically treated:
Corridors in patient areas.
Nurses' stations.
Labor rooms.
Utility rooms.
Floor pantries.

State Public Health Laboratory

Floors:

Resilient, smooth and stain resistant: All laboratories other than chemistry laboratories.

Resilient, smooth and acid resistant: Chemistry laboratories.

Smooth, waterproof, grease-proof, easily cleaned, non-slip, resistant to heavy traffic:
Culture media rooms.
Glasswashing rooms.
Sterilization rooms.
Acid cleaning rooms.
Animal rooms.

Walls:

Waterproof, painted, glazed or similar finishes to a point above the splash or spray line. They shall be without cracks, and in conjunction with floors, shall be waterproof and free of cracks and spaces which may harbor ants and roaches:
Laboratories.
Incubator rooms.
Sterilizing rooms.
Culture media rooms.
Glasswashing rooms.
Acid cleaning rooms.
Inoculation and operating rooms.
Animal rooms.

Same as above, but finish to reach to ceiling: Sterile rooms.

Ceilings: Waterproof painted: Sterile rooms.

Shelves and cabinets: Shelves and cabinets which are used for the storage of food, dishes, and cooking utensils shall be so constructed and mounted that there shall be no openings or spaces which cannot be cleaned and which might harbor vermin or insects. Cabinets which are used for the storage of open food containers and dishes shall be dust tight.

III-C. *Structural*—A. *Codes.* All construction shall be in accordance with the applicable local and State building codes and regulations. In areas which are not subject to local or State building codes, the recommendations of the following nationally recognized technical and engineering authorities shall be adopted insofar as such recommendations are not in conflict with the minimum general standards as set forth herein.

1. *American Concrete Institute.* (a) For good engineering practice in the design, erection, allowable working stresses, and for the mixing and placing of concrete on structures built of reinforced concrete.

(b) For standard specifications for cast stone.

2. *American Standards Association.* (a) For standard practice in masonry construction.

(b) For the design and erection of structural steel for buildings (the American Institute of Steel Construction Code).

(c) For good practice in gypsum plastering, including requirements for lathing and furring.

(d) For good practice in the design and erection of reinforced gypsum concrete.

(e) For safe practice in the design and construction of elevators and dumbwaiters.

3 *American Society of Testing Materials.* (a) For the specifications on, and the methods of testing, for metals and the materials of masonry construction.

(b) For the methods of standard fire tests of building construction and materials and for the methods of fire tests of door assemblies.

4. *National Lumber Manufacturers' Association.* (a) For good practice in the use of wood in types of construction of which it is a part, and for the working stresses of stress-grade lumber and its fastenings.

5. *National Board of Fire Underwriters.* (a) For estimated and tested fire-resistance ratings of materials and constructions.

(b) For safe practice in the design and construction of chimneys and metal smoke stacks.

6. *National Bureau of Standards.* (a) Publication BMS 92 and other data for tested fire-resistive ratings of materials and constructions.

B. *Design data—General.* The buildings and all parts thereof shall be of sufficient strength to support all dead, live, and lateral loads without exceeding the working stresses permitted for the materials of their construction in generally accepted good engineering practice.

Special. Special provisions shall be made for machines or apparatus loads which would cause a greater load than the specified minimum live load.

Consideration shall be given to structural members and connections of structures which may be subject to hurricanes or tornadoes. Floor areas where partition locations are subject to change shall be designed to support, in addition to all other loads, a uniformly distributed load of 25 p. s. f.

Live loads. The following unit live loads shall be taken as the minimum distributed live loads for the occupancies listed:

Hospital wards and bedrooms, 40 p. s. f.

Corridors above second floor, solariums and miscellaneous service rooms, 60 p. s. f.

Offices, treatment rooms, operating rooms, conference rooms, toilet and locker rooms, laboratories, kitchens, 80 p. s. f.

Corridors on first and second floors, library, assembly, lounges and recreation, waiting room, dining, laundry, 100 p. s. f.

Records File room, storage, supply, 125 p. s. f.

Mechanical equipment room, 150 p. s. f.

Roofs (except use increased value where snow and ice may occur), 20 p. s. f.

Wind (as required by local conditions, but) not less than 15 p. s. f.

Earthquake—for structures located within an area subject to earthquake shocks, refer to "Uniform Building Code" of the Pacific Coast Building Officials Conference.

C. *Construction.* Foundations shall rest on natural solid ground and shall be carried to a depth of not less than one foot below the estimated frost line or shall rest on leveled rock or load-bearing piles when solid ground is not encountered. Footings, piers, and foundation walls shall be adequately protected against deterioration from the action of ground water. Reasonable care shall be taken to establish proper soil-bearing values for the soil at the building site. If the bearing capacity of a soil is not definitely known or is in question, a recognized load test may be used to determine the safe bearing value.

One-story buildings shall be constructed of not less than one-hour fire-resistive construction throughout except that boiler rooms, heating rooms, and combustible storage rooms shall be of three-hour fire-resitive construction.

Buildings more than one story in height shall be constructed of incombustible materials, using a structural framework of reinforced concrete or structural steel except that masonry walls and piers may be utilized for buildings up to three stories in height not accounting for Penthouses. The various elements of such buildings shall meet the following fire-resistive requirements:

Walls:	*Hours*
Party and firewalls	4
Exterior bearing walls	3
Exterior panel and curtain walls	3
Inner court walls	3
Bearing partitions	3
Non-load bearing partitions	1
Enclosures for stairs, elevators and other vertical openings	2
Columns, girders, beams, trusses	3
Floor panels (including beams and joists in same)	2
Roof panels (including beams and joists in same)	2

Stairs and platforms shall be reinforced concrete or structural steel with hard incombustible materials for the finish of risers and treads.

Rooms housing furnaces, boilers, combustible storage or other facilities which may provide fire hazards shall be constructed of 3-hour fire-resistive construction.

III D. *Mechanical*—1. *Heating; steam piping and ventilation—Codes.* The heating system, steam piping, boilers and ventilation shall be furnished and installed to meet all requirements of the local and State codes and regulations, and the regulations of the National Board of Fire Underwriters and the minimum general standards as set forth herein. Where there is no local or State boiler code, the recommendations of the A. S. M. E. shall apply. Gas fired equipment shall comply with the regulations of the American Gas Association.

Boilers. Boilers shall have the necessary capacity when operating at normal rating to supply the heating system, hot water, and steam operated equipment, such as sterilizers, laundry and kitchen equipment. Spare boiler capacity shall also be provided in a separate unit to replace any boiler which might break down. Boilers which supply high pressure steam to sterilizers, kitchens, laundry, etc., shall meet the requirements of the city and State boiler codes for 125 pounds working pressure. Boilers for laundries shall be operated at not less than 125 pounds pressure while boilers for sterilizers and kitchen may operate at 50 pounds pressure.

Heating system. The building shall be heated by a hot water, steam, or equal type heating system.

Steam system. A system of Steam and Return Mains and Connections shall be provided to supply all equipment which requires steam heat.

Boiler accessories. Boiler feed pumps, return pumps and circulating pumps shall be furnished in duplicate, with feeder water heater, each of which has a capacity to carry the full load. Blow off valves, relief valves, non-return valves and fittings shall be provided to meet the requirements of the City and State Codes.

Radiation. The necessary radiation shall be furnished in each room and occupied space to maintain a temperature of 70° F. except in operating, delivery, and nurseries where a temperature of 75° F. shall be maintained. Each radiator shall be provided with hand control valve.

Piping. Steam and hot water heating piping shall be installed with standard weight steel or iron pipe and cast iron fittings. Pipe used in heating and steam systems shall not be smaller sizes than prescribed by the latest edition of the Heating, Ventilating and Air Conditioning Guide. The ends of all steam mains and low points in steam mains shall be dripped.

Valves. Steam, return and heating risers, steam return, and heating mains shall be controlled separately by a valve. Each steam and return main shall be valved. Each piece of equipment supplied with steam shall be valved on the supply and return ends.

Thermostatic control. The heating system shall be thermostatically controlled in one or more zones.

Auxiliary heat. Auxiliary radiators shall be provided in operating rooms, delivery

rooms, and nurseries to supply heat when the main heating system is not in operation.

Coverings. Boilers and smoke breeching shall be insulated with covering not less than 1" Magnesia blocks and ½" plastic asbestos finish. All high pressure steam and high pressure return piping shall be insulated with covering not less than the equivalent of 1" four ply asbestos covering. Heating mains in the boiler room, in excavated spaces, unexcavated spaces, and where concealed, shall be insulated with covering not less than 1" asbestos air cell.

Ventilation. Rooms which do not have outside windows and which are used by hospital personnel, such as Utility rooms, Toilets, Bed pan rooms, and Baths, and Sterilizer rooms, shall be provided with forced or suitable ventilation to change the air at least once every six minutes.

Kitchens, morgues and laundries which are located inside the hospital building shall be ventilated by exhaust systems which will discharge the air above the main roof or 50' 0" from any window. The ventilation of these spaces shall comply with the State or Local Codes but if no code governs, the air in the work spaces shall be exhausted at least once every six minutes with the greater part of the air being taken from the flat work ironer and ranges. Rooms used for the storage of inflammable material shall be ventilated to the outside air with intake and discharge ducts.

The operating and delivery rooms shall be provided with a supply ventilating system with heaters and humidifiers which will change the air at least eight times per hour by supplying fresh filtered air humidified to prevent static. No recirculation will be permitted. The air shall be removed from these rooms by forced system of exhaust. The sterilizing rooms adjoining these rooms shall be furnished with separate exhaust ventilating systems.

Incinerator. If coal fixed boilers are not used incinerators shall be provided. If provided, the incinerator shall be of a design that will completely burn 50% wet garbage without objectionable smoke or odor. It shall be designed with drying hearth, grates and combustion chamber lined with 9" fire brick. The gases shall be carried to a point above the roof of the hospital.

Tests. The systems shall be tested to demonstrate to the satisfaction of the State agencies having jurisdiction that: The boilers will carry the full load with one boiler in reserve, that the steam supply to all steam heated equipment is ample, that the ventilating equipment meets the minimum requirements and that all systems circulated satisfactorily without leaks or noise.

Health centers, nurses homes and laboratories. High pressure steam and a spare boiler, will not be required for a Health Center, Nurses Homes, and Laboratory building. Incinerators are not mandatory but are recommended in Health Centers, Laboratories and Nurses Homes.

Separate special ventilation or air-conditioning systems are required for the bacteriological and virus laboratories.

Mental hospitals. Radiators, grilles, pipes, valves and equipment shall be so located that they are not accessible to patients. Hot air heating may be used for spaces occupied by mental cases.

2. *Plumbing and drainage.* All parts of the plumbing systems shall comply with all applicable local and State codes and the requirements of the State Department of Health and the minimum general standards as set forth herein. Where no State or local codes are in force or where such codes do not cover special hospital equipment, appliances, and water piping, the National Bureau of Standards Plumbing Manual BMS 66 shall apply.

Water service. The water supply available for the hospital shall be tested and approved by the State Department of Health.

The water service shall be brought into the building to comply with the requirements of the local water department and shall be free of cross connections.

Hot water heaters and tanks. The hot water heating and storage equipment shall have sufficient capacity to supply 5 gallons of water at 150° F. per hour per bed for hospital fixtures, and 8 gallons at 180° F. per hour per bed for the laundry and kitchen.

The hot water storage tank or tanks shall have a capacity equal to 80% of the heater capacity.

Where direct fired hot water heaters are used they shall be of an approved high pressure cast iron type. Submerged steam heating coils shall be of copper. Storage tanks shall be of non-corrosive metal or be lined with non-corrosive material to comply with the A. S. M. E. Code for pressure vessels. Tanks and heaters shall be fitted with vacuum and relief valves, and where the water is heated by coal or gas they shall have thermostatic relief valves. Heaters shall be thermostatically controlled.

Water supply systems. From the cold water service and hot water tanks, cold water and hot water mains and branches shall be run to supply all plumbing fixtures and equipment which require hot or cold water or both for their operation. Pipes shall be sized to supply water to all fixtures with a minimum pressure of 15 pounds at the top floor fixtures during maximum demand periods. All plumbing fixtures except water closets, bed pan washers and drinking fountains shall have both hot and cold water supplies. Every supply outlet or connection to a fixture or appliance shall be protected against back flow in accordance with the provisions of standards for air gaps and backflow preventors as provided by plumbing Standards ASA-40.4 and 40.6. Wherever the usage of fixture or appliance will permit, water supplied to all fixtures, open tanks and equipment, shall be introduced through a suitable air gap between the water supply and the flood level of the fixture. No con-

nections shall be made which will permit back-flow.

Hot water circulating mains and risers shall be run from the hot water storage tank to a point directly below the highest fixture at the end of each branch main. Where the building is higher than 3 stories, each riser shall be circulated. Water pipe sizes shall be equal to those prescribed by the National Bureau of Standards Report BMS 66.

Drainage system. All fixtures and equipment shall be connected through traps to soil and waste piping and to the sewer. Indirect wastes pipes shall be installed in waste connections as required by BMS 66. All drainage and vent systems shall be designed and installed in accordance with the City and State Codes and the Plumbing Manual BMS 66 of the National Bureau of Standards where a city or State code is not in force.

Rain water drains. Leaders shall be provided to drain the water from roof areas to a point from which it cannot flow into the basement or areas around the building. Courts, yards, and drives which do not have natural drainage from the building shall have catch basins and drains to low ground, storm water system, or dry wells. Where dry wells are used they shall be located at least 20′ 0″ from the building.

Gas piping. Gas appliances shall be approved by the American Gas Association and shall be connected in accordance with the requirements of the company furnishing the gas.

Oxygen piping, outlets and manifolds where used shall be installed in accordance with the requirements of the company which will furnish the gas.

Pipe. The building drain, to a point 5′ 0″ from the building, shall be of cast iron. Soil stacks, drains, vents, waste lines, and leaders shall be of cast iron or steel except drain lines in back-fill or soil shall be of cast iron. Oxygen lines shall be of copper tubing not lighter than type "L" or I. P. S. red brass with fittings of brass or copper. Drains from sinks which use chemicals shall be of approved acid resistant metal. Gas piping shall be of black iron with malleable fittings or copper tubing.

Valves. Each main, branch main, riser and branch to a group of fixtures of the water systems shall be valved.

Insulation. Tanks and heaters shall be insulated with covering equal to 1″ 4-ply air cell.

Hot water and circulating pipes shall be insulated with covering equal to canvas jacketed 3-ply asbestos air cell.

Cold water mains in occupied spaces and in store rooms shall be insulated with canvased jacketed felt covering to prevent condensation. All pipes in outside walls shall also be insulated to prevent freezing.

Stand pipe system. The stand pipe system shall be installed as required by the local and State departments having jurisdiction and the National Board of Fire Underwriters.

Plumbing fixtures. The material used for plumbing fixtures shall be of an approved non-absorptive acid resisting material.

Water closets in and adjoining patients' areas shall be of a quiet operating types.

Flush valves shall have non-return stops and an acceptable back-flow preventer. Flush valves in rooms adjoining patients' rooms shall be designed for quiet operation with quiet acting stops.

Faucet spouts shall have the discharge openings above the rim of the fixture. Goose neck spouts shall be used for patients' lavatories, nurses' lavatories and sinks which may be used for filling pitchers. Knee or elbow action faucets shall be used for doctors' wash-up, utility and clinic sinks and in treatment rooms. Elbow or wrist action spade handles control shall be used on other lavatories and sinks used by doctors or nurses. Drinking fountains, where used, shall comply with the A. S. A. Std. A4.2-1942.

Tests. All soil, waste, vents and drain lines shall be tested by water or air test before they are built in.

A smoke or chemical test shall be applied after fixtures have been set. Water pipe shall be hydraulically tested to a pressure equal to twice the working pressure. The tests shall demonstrate to the satisfaction of the State Health Department that there are no leaks, that hot water mains and risers are circulating, that all traps are properly vented; that there is ample supply of hot and cold water to all fixtures, that no fixture or equipment can be back syphoned and that there are no back-flow connections.

Sterilizers. Sterilizers and autoclaves shall be provided of the required types and necessary capacity to adequately sterilize instruments, utensils, dressings, water, operating room material, such as gloves, sutures, etc., and as required for laboratories. The sterilizers shall be of recognized hospital types with approved controls and safety features.

Mental and T. B. hospitals. Plumbing fixtures which require hot water and which are accessible to mental patients shall be supplied with water which is thermostatically controlled to provide a maximum water temperature of 110° F. at the fixture.

Special consideration shall be given to piping, controls and fittings of plumbing fixtures as required by the types of mental patient and the doctor in charge of planning. No pipes or traps shall be exposed and fixtures shall be substantially bolted through walls. Generally, for disturbed patients prison type water closets without seats shall be used and shower and bath controls shall not be accessible to patients.

The hot water heat and tank capacities for laundries in T. B. and mental hospitals may be reduced to 40% of that required for general hospitals.

Laboratories, nurses home and health centers. Emergency quick acting cold water showers are required at convenient points in chemical laboratories.

Only one system of hot water will be required in laboratories, nurses homes and health centers and the elbow or knee action lavatory and sink faucet handles will be required only in clinical rooms of health centers.

3. *Electrical installations—Codes and regulations.* The installation of electrical work and equipment shall comply with all local and State codes and laws applicable to electrical installations and the minimum general standards as set forth herein. Where such codes and laws are not in effect or where they do not cover special installations the National Electrical Code shall apply. The regulations of the local utility company shall govern service connections. All materials shall be new and shall equal standards established by the Underwriters Laboratories, Inc. Certificates of approval shall be issued by these departments having jurisdiction before the work will be approved for final payment.

Service. Connections from the service mains, with meter connections and service switches shall be installed as required by the Public Service Company.

Feeders and circuits. Separate power and light feeders shall be run from the service to a main switchboard and from there sub-feeders shall be provided to the motors and power and light distributing panels. From the power panels feeders shall be provided for large motors, and circuits from the light panels shall be run to the lighting outlets. Large heating elements shall be supplied by separate feeders from the Power or Light Service as directed by the local Public Service Company. Independent feeders shall be furnished for X-ray equipment.

Switchboard and power panels. Circuit breakers or dead front type fused switches shall be installed to protect all feeders and sub-feeders. Motors shall be connected with breakers or fused switches.

Light panels. Light panels shall be provided on each floor for the lighting circuits on that floor. Light panels shall be located near the load centers not more than 100'0" from the farthest outlet. Receptacles for special equipment shall be of a heavy duty type on separate circuits.

Lighting outlets, receptacles and switches. All occupied areas shall be adequately lighted as required by duties performed in the space. Patients' bedrooms shall have as a minimum general illumination, a bracket or receptacle for each bed, a duplex receptacle for each two beds for doctor's examination, and a night light. The outlets for general illumination and night lights shall be switched at the door. Switches in patients' rooms shall be of an approved mercury or equal, quiet operating type, or shall be placed in the corridor. Operating and delivery rooms shall be provided with special lights for the tables each on an independent circuit and for general illumination. Not less than three 3-point grounded explosion proof receptacles shall be provided in each room. Each operating room shall have a film-viewing box of an explosion-proof type. Grounding shall be provided for floors in the operating, anesthesia, and delivery sections.

Emergency lighting. Emergency lighting shall be provided for exits, stairs, and patient corridors which shall be supplied by an emergency service, an automatic emergency generator or battery with automatic switch. Operating and delivery room lights shall be connected with an automatic transfer switch which will throw the circuits to the emergency service in case of current failure. Should an emergency service from the street be used it shall be from a generating plant independent of that used for the main electric service.

Nurses' call. Each patient shall be furnished with a nurses' call station which will register a call from the patient; at the corridor door, at the nurses' station, and in each pantry and utility room of the nursing unit. A duplex unit may be used for 2 patients. Indicating lights shall be provided at each station where there are more than two beds in a room. Wiring for nurses' call systems shall be installed in conduit.

Lighting fixtures. Lighting fixtures shall be furnished for all lighting outlets. They shall be of a type suitable for the space. Should ceiling lights be used in patients' rooms, they shall be of a type which does not shine in the patients' eyes.

Tests. Lighting fixtures, all wiring and equipment shall be tested to show that it is free from grounds, shorts or open circuits.

Health centers, nurses' homes and laboratories. Emergency lighting and call systems will not be required in health centers, nurses' homes and laboratories except as provided for by local and State codes.

Mental hospitals. No lighting fixtures, switches, receptacles or electrical equipment shall be accessible to mental patients.

Nurses' call systems will not be required in areas occupied by mental patients.

4. *Elevators and dumbwaiters—Codes.* The elevator installations shall comply with all local and State Codes, American Standard Safety Code for Elevators, the National Board of Fire Underwriters, the National Electric Codes, and the minimum general standards as set forth herein.

Number of cars. Any hospital with patients on one or more floors above the first or where the operating or delivery rooms are above the first floor shall have at least one electric motor driven elevator. Hospitals with a bed capacity of 60 to 200 shall have not less than two elevators. Hospitals with a bed capacity of from 150 to 350 above the first floor shall have not less than 3 elevators, two passenger and one service. A larger number may be required by the hospital plan, a large visitors' traffic and food distribution.

Elevators with a rise of more than 6 stories require special consideration.

Cab. Cabs shall be constructed with fireproof material. Passenger cab platforms shall be not less than 5' 4" x 8' 0" with a capacity of 3,500 pounds. Service elevators shall be of sufficient size to receive a stretcher with patient.

Cab and shaft doors shall be not less than 3′ 10″ clear opening.

Controls. Elevators, for which operators will not be employed, shall have automatic push button control, signal control or dual control for use with or without operator. Where two push button elevators are located together and where one such elevator serves more than three floors and basement, they shall have collective or signal control. Where the car has a speed of more than 100′ 0″ per minute or has a rise of four or more floors, the elevator shall be equipped with automatic self-leveling control which will automatically bring the car platform level with the landing with no load or full load. Multivoltage or variable voltage machines shall be used where speeds are greater than 150′ 0″ per minute. For speeds above 350′ 0″ per minute, the elevators shall be of the gearless type.

Dumbwaiters. Dumbwaiter cabs shall be not less than 24″ x 24″ x 36″ of steel with one shelf to operate at speed of 50 to 100′ per minute when carrying a load of 100 pounds. Dumbwaiters serving basement and four floors shall have a minimum speed of 100′ 0″.

Tests. Elevator machines shall be tested for speed and load with and without loads in both directions and shall be given overspeed tests as covered by the "Safety Code for Elevators."

5. *Refrigeration—Codes.* The refrigerators and refrigerating systems shall be furnished and installed to meet all requirements of the local and State Codes and regulations, the National Board of Fire Underwriters, and the minimum general standards as set forth herein.

This section shall include portable refrigerators, built-in refrigerators, garbage refrigeration, ice-making and refrigerator equipment, morgue boxes.

Box construction. Boxes shall be insulated with waterproof, non-absorbent, verminproof insulation. For the portable boxes, the insulation in the doors and walls shall be equal to 2″ cork. Outer walls and doors of the walk-in boxes shall have insulation equal to 4″ cork. Boxes shall be lined with nonabsorbent sanitary material which will withstand the heavy use to which it will be subjected and constructed so as to be easily cleaned.

Refrigerators of adequate capacity shall be provided in all kitchens and other preparation centers, where perishable foods will be stored.

In the main kitchen, a minimum of two separate sections or boxes shall be provided, one for meats and dairy products, and one for general storage.

Refrigerator machines. Toxic, "irritant", or inflammable refrigerants shall not be used in refrigerator machines located in buildings occupied by patients.

The compressors and evaporators shall have sufficient capacity to maintain temperatures of 35° F. in the meat and dairy boxes, and 40° F. in the general storage boxes when the boxes are being used normally. Compressors shall be automatically controlled.

Tests. Compressors, piping, and evaporators shall be tested for leaks and capacity.

6. *Kitchen equipment—Codes.* The kitchen equipment shall be so constructed and installed as to comply with the applicable local and State laws, codes, regulations and requirements, and with the applicable sanitation standards of Public Health Bulletin No. 280, entitled "Ordinance and Code Regulating Eating and Drinking Establishments, recommended by the U. S. Public Health Service," and with the minimum general standards set forth herein.

Equipment. The equipment shall be adequate and so arranged as to enable the storage, preparation, cooking, and serving of food and drink to patients, staff and employees to be done in an efficient and sanitary manner. The equipment shall be selected and arranged in accordance with the types of food service adopted for the hospital.

Adequate cabinets or other facilities shall be provided for the storage or display of food, drink, and utensils, and shall be designed as to protect them from contamination by insects, rodents, other vermin, splash, dust, and overhead leakage.

Adequate facilities shall be provided for the washing and bactericidal treatment of utensils used for eating, drinking, and food preparation. Where utensils are to be washed by hand, there shall be provided an adequate sink equipped with heating facilities to maintain a water temperature of at least 170° F. in the bactericidal treatment compartment throughout the dishwashing period. Where utensils are to be washed by machine, there shall be provided facilities for supplying to the dishwashing machine an adequate supply of rinse water at 170° F., measured at the rinse sprays, throughout the dishwashing period. All tables, shelves, counters, display cases, stoves, hoods, and similar equipment shall be so constructed as to be easily cleaned and shall be free of inaccessible spaces providing harborage for vermin. Where there is not sufficient space between equipment and the walls or floor to permit easy cleaning, the equipment shall be set tight against the walls or floor and the joint properly sealed. All utensils and equipment surfaces with which food or drink comes in contact shall be of smooth, not readily corrodable material free of breaks, corrision, open seams or cracks, chipped places, and V-type threads. All surfaces with which food or drink comes in contact shall be easily accessible for inspection and cleaning and shall be self-draining, and shall not contain or be plated with cadmium or lead. All water supply and waste line connections to kitchen equipment shall be installed in compliance with the plumbing requirements of these standards.

7. *Laundry—Codes.* The laundry equip ment shall be designed and installed to comply with all local and State codes and laws, and the requirements of the State Department of Health and the minimum general standards as set forth herein.

Where laundries are provided they shall be complete with washers, extractors, tumblers, ironer and presses which shall be provided with all safety appliances and sanitary requirements.

Washers. There shall be at least two washers which shall have a combined rated capacity of not less than 12 pounds of dry laundry per day per patient bed, when operating not more than 40 hours per week.

Ironer. Provide one flat work ironer with a capacity equal to 70% of the washer capacity when operating 40 hours per week.

Extractor. There shall be not less than one extractor with a daily capacity equal to that given above for the washers and for hospitals with more than 100 beds there shall be two extractors.

Tumbler. Provide a minimum of one tumbler with a rated capacity equal to 25% of the washers, when operating 40 hours per week.

Presses. For finished work provide not less than 1 nurses uniform unit consisting of 3 presses or one utility unit with 2 presses which shall be increased for the larger hospitals.

Wash tubs. Provide 2 wash tubs.

Mental and T. B. hospitals. The capacity per bed of laundry equipment for T. B. and Mental hospitals shall be 40% of that required for general hospitals.

III (E). *Preparation of plans, specifications and estimates.* The requirements contained herein have been established for the guidance of the Applicant and the Architect to provide a standard method of preparation of drawings, specifications and estimates.

It is expected that the applicant will find it advantageous to submit the material through the State Agency in three stages for its recommendation and approval. However, the applicant may, if he so elects, combine the first two stages.

If the data required under stage 3 is available, it may be submitted without the drawings required under stages one and two.

Copies of the final working drawings and specifications previously submitted under stage three will be submitted for approval with the formal application for the project. The requirements for the material submitted at each of the three stages are as follows.

Drawings and specifications. 1. (First stage) program and schematic plans—(a) *Program.* List in outline form the rooms or spaces to be included in each department, explaining the functions or services to be provided in each, indicating the approximate size, the number of personnel and the kind of equipment or furniture it will contain. Note any special or unusual services or equipment to be included in the facility.

If a hospital project, submit a schedule showing the total number of beds, their distribution in room and in the services, such as medicine, surgery, obstetrics, etc.

(b) *Schematic plans.* Single line drawings of each floor showing the relationship of the various departments or services to each other and the room arrangement in each department. The name of each room should be noted. The proposed roads and walks, service and entrance courts, parking and orientation may be shown on either a small plot plan or the 1st floor plan. Simple vertical space diagram should be submitted at this stage.

(c) *Construction outline.* A brief description of the type of construction.

(d) *Description of site.* If a survey has been made, a plat shall be submitted at this time, if not it should be submitted with the Preliminary Plans. (Second Stage). In lieu of a plat of the survey, a description of the site may be submitted at this time. This shall note the general characteristics of the site, easement, availability of electricity, water and sewer lines, main roadway approaches, direction of prevailing breezes, orientation, etc. A map indicating location of the hospital in its geographic area with particular reference to recommendation given under Site III A, should be submitted.

(e) *Preliminary cost estimates.*

2. (*Second stage*) *preliminary plans, elevations, and outline specifications.* (A) Development of the preliminary sketch plans indicating in more detail the assignment of all spaces, size of areas and rooms, indicating in outline, the fixed and movable equipment and furniture.

The plans shall be drawn a scale sufficiently large to clearly present the proposed design.

The total floor area shall be computed and shown on the drawings.

The drawings shall include (1) a plan of each floor including the basement or ground floor, (2) Roof plan, (3) Approach plan showign roads, parking areas, sidewalks, etc., (4) elevations of all facades, (5) sections through the building.

A print of the "Site Survey and Soil Information" which is described under another section of this manual shall be included unless it has already been submitted in Stage I.

(B) Outline specifications shall provide a general description of the construction including interior finishes; accoustical material, its extent and type; extent of the conductive floor covering; heating and ventilating systems; and the type of elevators.

(C) Revised cost estimates.

3. (*Third stage*) *working drawings and specifications.* (A) All working drawings shall be well prepared so that clear and distinct prints may be obtained; accurately dimensioned and include all necessary explanatory notes, schedules and legends. Working drawings shall be complete and adequate for contract purposes. Separate drawings shall be prepared for each of the following branches of work: Architectural, Structural, Mechanical, Electrical. They shall include or contain the following:

1. *Architectural drawings.* (a) Approach plan showing all new topography, newly established levels and grades, existing structures on the site (if any), new buildings

and structures, roadways, walks, and the extent of the areas to be seeded. All structures and improvements which are to be removed under the construction contract shall be shown. A print of the survey shall be included with the working drawings for the information of bidders only. The survey shall not be made a contract drawing.

(b) Plan of each floor and roof.

(c) Elevations of each facade.

(d) Sections through building.

(e) Scale and full size details as necessary; scale details at one and one-half (1½) inches to the foot may be necessary to properly indicate portions of the work. Full size details may be prepared after award of construction contract.

(f) Schedule of finishes.

2. *Equipment drawings.* (a) Large scale drawings of typical and special rooms indicating all fixed equipment and major items of furniture and movable equipment. The furniture and movable equipment will not be included in the construction contract but should be indicated by dotted lines.

3. *Structural drawings.* (a) Plans of foundations, floors, roofs and all intermediate levels shall show a complete design with sizes, sections, and the relative location of the various members. Schedule of beams, girders and columns.

(b) Floor levels, column centers, and offsets shall be dimensioned.

(c) Special openings and pipe sleeves shall be dimensioned or otherwise noted for easy reference.

(d) Details of all special connections assemblies and expansion joints shall be given.

(e) Notes on design data shall include the name of the governing building code, values of allowable unit stresses, assumed live loads, wind loads, earthquake load, and soil-bearing pressures.

(f) For special structures, a stress sheet shall be incorporated in the drawings showing:

(1) Outline of the structure,

(2) All load assumptions used.

(3) Stresses and bending moments separately for each kind of loading.

(4) Maximum stress and/or bending moment for which each member is designed, when not readily apparent from (3).

(5) Horizontal and vertical reactions at column bases.

4. *Mechanical drawings.* These drawings with specifications shall show the complete heating, steam piping and ventilation systems; plumbing, drainage and stand pipe systems; and laundry.

(a) *Heating, steam piping and ventilation.*

(1) Radiators and steam heated equipment, such as sterilizers, warmers and steam tables.

(2) Heating and steam mains and branches with pipe sizes.

(3) Diagram of heating and steam risers with pipe sizes.

(4) Sizes, types and heating surfaces of boilers, furnaces, with stokers and oil burners, if any.

(5) Pumps, tanks, boiler breeching and piping and boiler room accessories.

(6) Air conditioning systems with refrigerators, water and refrigerant piping, and ducts.

(7) Exhaust and supply ventilating systems with steam connections and piping.

(b) *Plumbing, drainage and stand pipe systems.* (1) Size and elevation of: Street sewer, house sewer, house drains, street water main and water service in to the building.

(2) Location and size of soil, waste, and vent stacks with connections to house drains, fixtures and equipment.

(3) Size and location of hot, cold and circulating mains, branches and risers from the service entrance and tanks.

(4) Riser diagram to show all plumbing stacks with vents, water risers and fixture connections.

(5) Gas, oxygen and special connections.

(6) Standpipe system.

(7) Plumbing fixtures and fixtures which require water and drain connections.

(c) *Elevators and dumbwaiters.* Shaft details and dimensions, size car platform and doors; travel, pit and machine room.

(d) Kitchens, Laundry, Refrigeration and Laboratories shall be detailed at a satisfactory scale to show the location, size and connection of all fixed and movable equipment.

5. *Electrical drawings.* Drawings shall show all electrical wiring, outlets, and equipment which require electrical connections.

(a) Electrical service entrance with service switches, service feeders to the public service feeders and characteristics of the light and power current. Transformers and their connections if located in the building, shall be shown.

(b) Plan and diagram showing main switchboard, power panels, light panels and equipment. Feeder and conduit sizes shall be shown with schedule of feeder breakers or switches.

(c) Light outlets, receptacles, switches, power outlets and circuits.

(d) Telephone layout showing service entrance, telephone switchboard, strip boxes, telephone outlets and branch conduits as approved by the Telephone Co. Where public telephones are used for inter-communication, provide separate room and conduits for racks and automatic switching equipment as required by the Telephone Company.

(e) Nurses' call systems with outlets for beds, duty stations, door signal lights, annunciators and wiring diagrams.

(f) Doctors' call and doctors' in-an-out systems with all equipment wiring, if provided.

(g) Fire alarm system with stations, gongs, control board and wiring diagrams.

(h) Emergency lighting system with outlets, transfer switch, source of supply, feeders and circuits.

6. *Additions to existing projects.* (a) Procedures and requirements for working drawings and specifications to be followed

and in addition the following information shall be submitted:

(1) Type of activities within the existing building and distribution of existing beds, etc.

(2) Type of construction of existing building and number of stories high.

(3) Plans and details showing attachment of new construction to the existing structure and mechanical systems.

(B) Specifications shall supplement the drawings and shall comply with the following:

1. The specifications shall fully describe, except where fully indicated and described on the drawings; the materials; workmanship; the kind sizes, capacities, finish and other characteristics of all materials, products, articles and devices.

2. The specifications shall include:

(a) Cover or title sheet.

(b) Index.

(c) Invitation for bids.

(d) General conditions.

(e) Wage rates.

(f) General requirements.

(g) Sections describing material and workmanship in detail for each class of work.

(h) Form of bid bond.

(i) Bid form.

(j) Form of agreement.

(k) Performance and payment bond forms.

3. In order to obtain a standard procedure Standard Specification Forms will be furnished to the State Agency for use of the Architect. They will include all items enumerated under Paragraph 2 above, except item (g). The General Conditions, item (d), may be supplemented by the Architect to cover local or special conditions. (Sample Standard Specification Forms are available upon request.)

(C) Estimates shall show in convenient form and detail the probable total cost of the work to be performed under the contract for construction of new buildings, expansion, remodeling and alteration of existing buildings including provision of fixed equipment contemplated by plans and specifications.

IV. *Equipment—General.* Equipment necessary for the functioning of the facility as planned shall be provided in the kind and to the extent required to perform the desired service. The necessary equipment shall be included in the cost of the project and is considered an essential part of the project.

Definition of equipment. The term "equipment" as used herein means all items necessary for the functioning of all services of the facility including such services as accounting and records, maintenance of buildings and grounds, laundry service, public waiting rooms, public health, and related services. The term "equipment" does not include items of current operating expense such as food, fuel, drugs, dressings, paper, printed forms, soap, and the like.

Classification of equipment. All equipment shall be classified in three groups as indicated below; the basis of classification being the usual methods of purchasing the equipment and suggested accounting practices in regard to depreciation:

Group I. Built-in equipment included in construction contracts. 1. Hospital cabinets and counters, laboratory and pharmacy cabinets, X-ray and darkroom equipment, cubicle curtain equipment, shades and venetian blinds and any other built-in equipment, including items which have been included previously under Section II and III of the General Standards such as: Kitchen equipment, laundry chutes, elevators, dumbwaiters, boilers, incinerators, refrigerating equipment, sterilizing equipment, surgical lighting and the like.

Group II. Depreciable equipment of five years' life or more normally purchased through other than construction contracts. 1. Large items of furniture and equipment having a reasonably fixed location in the building but capable of being moved.

2. Example: Furniture, surgical apparatus, diagnostic and therapeutic equipment, office machines, dental equipment, laboratory and pharmacy equipment (except cabinets) wheeled equipment and the like.

Group III. Non-depreciable equipment of less than five years' life normally purchased through other than construction contract. 1. Small items of low unit cost and suited to storeroom control.

2. *Examples.* Chinaware, silverware, kitchen utensils, bedside lamps, waste baskets, bed pans, dressing jars, catheters, surgical instruments, linens, sheets, blankets, mattresses and the like.

It shall be the responsibility of the applicant to select and purchase all necessary equipment for the complete functioning of all services included in the projects in accordance with these standards and any further standards prescribed by the State Agency.

It is essential that the equipment shall be properly apportioned and budgeted to the various services of the facility so that unduly expensive or elaborate equipment is not provided for some services of the project, necessitating the use of cheap and inadequate equipment for other services.

As soon as possible after the award of the construction contract, the applicant shall submit to the Surgeon General through the State Agency for approval a complete list in triplicate of all proposed Groups II and III equipment, including itemized estimate of cost.

Appendix B—Merit System Policies of the Public Health Service

Introduction. The United States Public Health Service is in accord with other Federal agencies and leaders in the field of public administration who recognize the principle that a system of personnel administration on a merit basis is the most effective method of securing and retaining qualified personnel. The employment of qualified personnel is considered a prerequisite of efficient administration, without which the

purposes of sections 314 and 623, of the Public Health Service Act as amended may not effectively be achieved.

Accordingly, the regulations of the United States Public Health Service contain provisions relative to the establishment of merit system of personnel administration in State and local health departments and other State agencies administering programs assisted by grants-in-aid from the United States Public Health Service. Under these regulations the United States Public Health Service reviews merit systems to determine their conformity with accepted standards of personnel administration.

The application of these policies is required as evidence that minimum standards of efficient personnel administration have been met. They are herewith adopted by the United States Public Health Service as standards for evaluating compliance with § 9.12 of the regulations governing grants to States and § 10.73 of the regulations governing the administration of the Hospital Survey and Construction program.

MERIT SYSTEM POLICIES

SECTION *I. Jurisdiction of the merit system.* (1) The following standards are applicable to personnel employed in State programs, the budgets for which provide for the expenditure of Federal funds or of State funds for matching purposes, and to persons having administrative responsibility for such programs unless specifically exempted in accordance with these policies.

(2) Upon completion of extension of merit system to local programs, these standards shall also apply to personnel employed in local programs, the budgets for which provide for the expenditure of Federal funds or of State funds for matching purposes, and to persons having administrative responsibility for such programs unless specifically exempted in accordance with these policies.

(3) At the option of the State agency,[1] the following positions may be exempted from application of these standards: the executive head of the State agency administering a program under the jurisdiction of the merit system; one confidential secretary to the executive head, provided the confidential secretary has no administrative or managerial responsibility for State plans; members of State and local boards or commissions and members of advisory councils or committees or similar boards paid only for attendance at meetings; State and local officials serving ex officio and performing incidental administrative duties; part-time professional personnel who are paid for any form of medical, nursing, or other professional service and who are not engaged in the performance of administrative duties.

(4) Upon request of the proper State authority, exemption of hospital and sanatoria personnel from application of these standards will be considered on the basis of current State and local administration. However, the requirement of a merit system of personnel administration does not apply to personnel operating hospitals aided under the Federal Hospital Survey and Construction program solely by reason of their benefit under the Act.

SEC. II *Merit system organization.* (1) The merit system organization for State agencies shall be either a State civil service, that is, a merit system established by statute or other legislative enactment; or a joint merit system, that is, a merit system established by agreement among two or more State agencies. A single agency system, that is, a merit system maintained by and for a single State agency, may be approved on a temporary basis when the Public Health Service is convinced by presentation of facts that either a State civil service or a joint agency plan may be immediately impracticable. Temporary approval will be continued for only such period as required to make the necessary adjustments for the establishment of or participation in a State civil service or joint agency system.

(2) If merit system costs are charged to the State agencies no more than an equitable share of the costs shall be borne by funds made available through these grants.[2] The share so borne shall be based on the planned predetermined ratio of such State agency costs to the total merit system costs as set forth in the Fiscal Manual for Joint Merit System Administration prepared by the Social Security Board of the Federal Security Agency, September 1943.

(3) The merit system shall provide for an advisory council whose members shall be selected from outside the agency served, in order to establish public confidence in the impartiality of merit system administration.

SEC. III. *Merit system supervisor.* (1) The merit system shall provide for a merit system supervisor qualified by training and experience for the responsibilities of the position, and shall be of known sympathy with the merit principle of personnel administration in the public service.

(2) The merit system shall provide that examinations will be conducted under the direction of the merit system supervisor.

SEC. IV. *Personnel officer.* The executive head of the State agency shall employ a personnel officer, or designate a staff employee to serve in this capacity until a personnel officer can be included in the State plan. The personnel officer shall be responsible for the agency's internal personnel administration. It shall be his responsibility to administer the classification and compensation plans; to provide for adequate per-

[1] As used in these policies, "State agency", refers to those agencies administering programs assisted by grants-in-aid from funds made available by the United States Public Health Service in accordance with the provisions of the Public Health Service Act.

[2] Except that no Federal funds will be available under section 623 of the Public Health Service Act as amended by the Hospital Survey and Construction Act for payment of any merit system costs incurred in the administration of the hospital construction program. Such funds may be used to meet a share of the costs if a merit system is applied in the administration of a State hospital survey and planning program.

sonnel records of all persons included in the State plan and all personnel actions taken; to request certification of eligibles by the merit system supervisor; to report periodically to the executive head of the State agency on selection, promotion, salary advancements, demotions, transfers, separations, resignations and other types of personnel actions; to report on and recommend action concerning probationary appointees; to make provision for and supervise service ratings for all employees; to be responsible for the preparation and maintenance of written procedural instructions covering personnel actions as set forth in section XVII of these policies.

SEC. V. *Classification plan.* A classification plan including class specifications for all classes of positions included in the approved State plan shall be established and maintained for the State agency in accordance with the provisions of the merit system rules. The classification plan shall be based on an investigation and analysis of the duties and responsibilities of each position. Each class specification shall include a descriptive title, examples of duties and responsibilities of the class and minimum requirements of education, experience and other qualifications necessary for the performance of the duties of the position.

SEC. VI. *Compensation plan.* A compensation plan shall be established and maintained for all classes of positions included in the classification plan. The plan shall be formulated within the provisions of existing laws related to salary rates, and of rules and regulations uniformly applicable to comparable departments of the State government. In the development of salary schedules consideration shall be given to the difficulty and responsibility of the duties involved and of the preparation required. Salary ranges shall consist of minimum and maximum rates of pay with intermediate steps for salary advancement within the range.

SEC. VII. *Political activity and religious affiliation.* (1) The merit system rules shall prohibit employees from participating in any type of political activity or from taking part in city, county, State or national elections, except that any employee has the right as an individual citizen to express his views and cast his vote.

(2) No employee shall be permitted to solicit or receive any money or contribution for political purposes, nor shall any employee be separated, transferred, demoted or subjected to any coercive action for refusing to make any contribution for political purposes.

(3) The merit system regulations shall provide against discrimination because of political or religious opinions or affiliations.

SEC. VIII. *Recruitment and appointment of personnel.* (1) An employee who has acquired permanent status under a State civil service or merit system with standards substantially comparable to those adopted by the State agency need not be required to take an examination to retain his position at the time a merit system is established.

(2) All positions in the State agency, except those specifically exempted, shall be filled by personnel selected in accordance with the rules and regulations of the merit system.

(3) The merit system shall include the following provisions governing the administration of examinations for entrance into the service:

A. Examinations shall be conducted on an open competitive basis.

B. Applicants admitted to examinations shall meet the requirements set forth in the class specifications.

C. Examinations shall be constructed to reveal the capabilities of applicants for positions for which they are competing, the general background and related knowledge. Examinations may include an objective rating of training and experience, consideration of written material offered as evidence of candidates' past achievements, a performance test for positions involving the operation of office machines or other equipment, and an oral examination for positions requiring frequent contact with the public or involving important administrative or supervisory duties. Examinations shall be rated objectively.

1. Assembled examinations, including a written test, and when appropriate a performance test, shall be given to applicants for non-professional positions, and whenever practicable to applicants for professional positions.

2. Unassembled examinations, which may include an oral interview for the evaluation of personal qualifications, may be given in accordance with the provisions of the merit system rules and regulations. Use of unassembled examinations should be limited to supervisory or consultative professional positions for which a specified minimum number of years of responsible experience in a special field is required for admission to the examination, and to non-supervisory professional positions for which a period of experience in the special field is required which is long enough, preferably not less than two years, to serve as a satisfactory basis for judgment of competence.

3. When an examination consists of several parts, such as an evaluation of training and experience, a written test and an oral interview, the relative weight of each part shall depend on its importance in determining ability to perform the duties of the position.

SEC. IX. *Eligible registers.* (1) The merit system agency shall prepare and establish registers of eligibles in the order of their final examination ratings; maintain current registers; abolish or retire registers as they become inactive, obsolete or depleted; make certification of eligibility; and be responsible for all examination records.

(2) Except for emergency and provisional appointments to positions in classes for which no list of eligibles is available, the

selection of personnel shall be from a limited number of the highest available eligibles certified by the merit system supervisor.

SEC. X. *Probationary period and permanent appointment.* Personnel selected from registers to fill permanent positions shall serve a probationary period of specified length. Permanent appointment shall be based on a written evaluation of the performance of the employee during the probationary period. Provision shall be made to prevent probationary appointments becoming permanent appointments through default, that is, through failure of a rating officer to declare to the proper merit system authority that the probationary appointee has been satisfactory or unsatisfactory.

SEC. XI. *Provisional appointment.* In the absence of an appropriate eligible register, provisional appointment to permanent or temporary positions may be made pending competitive examination, provided each provisional appointee is certified by the merit system supervisor as meeting the minimum qualifications established for the class to which the position is allocated. No provisional appointment shall be continued for more than thirty days after an appropriate register has been established. Successive provisional appointments of the same person may not be made, nor may a position be filed by repeated provisional appointments.

SEC. XII. *Promotion*—(1) Promotion shall be based on ability, quality and length of service.

(2) Eligibility for promotion shall be determined on recommendation of the State agency and certification by the merit system supervisor that the employee meets the minimum qualifications. Candidates for promotion shall be required to qualify by promotional competitive or non-competitive examination administered by the merit system agency.

SEC. XIII. *Pay roll certification.* The State agency shall provide for review of all pay rolls to insure that payments are authorized only for persons appointed in conformity with the merit system rules. Pay roll exceptions shall be reported to the executive head of the State agency and will be subject to audit by authorized representatives of the Public Health Service.

SEC XIV. *Leave and separations*—(1) Regulations shall be established by the State agencies governing vacation and sick leave, military, educational and other types of leave.

(2) Employees who have completed the required probationary period and have acquired permanent status shall not be subject to removal except for cause, unless separation is due to curtailment of work or lack of funds. In the event of removal, permanent employees shall have the right of appeal to an impartial body through an established procedure provided in the merit system rules.

SEC XV. *Service ratings.* A system of periodic service ratings for the evaluation of performance shall be maintained, and such ratings shall be considered in promotions, salary increases, and separations.

SEC. *XVI. Personnel records.* The State agencies and the merit system agency shall maintain adequate personnel records to provide current information regarding each employee, including status and rate of pay.

SEC. *XVII. Agency rules and regulations.* State agencies should have written regulations for the following types of personnel actions: (1) attendance requirements and leave regulations; (2) salary adjustments and advancements; (3) periodic service ratings; (4) employment procedures for promotion, demotion, transfer and separation; (5) staff training.

[F. R. Doc. 47-1247; Filed, Feb. 11, 1947; 8:45 a. m.]

B—ILLINOIS LEGISLATION

HOSPITAL LICENSING LAW (H.B. 993)

A BILL

For an Act requiring hospitals that receive Federal aid under the provisions of U. S. Public Law 725, enacted by the 79th Congress, to comply with certain minimum standards, are providing a penalty for violation thereof.

Be it enacted by the People of the State of Illinois, represented in the General Assembly:

Section 1. Any hospital which shall have received Federal aid under the provisions of Public Law 725, known as the "Hospital Survey and Construction Act," enacted by the 79th Congress, shall comply with the minimum standards of maintenance and operation which the State Department of Public Health, with the assistance of the Advisory Hospital Council, shall promulgate.

Sec. 2. Any such hospital or person acting in behalf of such hospital violating these minimum standards of maintenance and operation shall be guilty of a misdemeanor, and upon conviction shall be fined not more than one hundred dollars for the first offense and not more than two hundred dollars for each subsequent offense, and each day of a continuing violation after conviction shall be considered a separate offense.

ILLINOIS HOSPITAL CONSTRUCTION ACT (H. B. 315)

A BILL

For an Act in relation to the expansion of public and non-profit hospital facilities in this State and to make an appropriation in connection therewith.

Be it enacted by the People of the State of Illinois, represented in the General Assembly:

Section 1. This Act may be cited as the "Illinois Hospital Construction Act."

Sec. 2. As used in this Act:

"Director" means the Director of the State Department of Public Health.

"Department" means the Department of Public Health.

"Hospital" means any hospital for inpatient and out-patient medical or surgical care of persons in need thereof.

"State plan" means the plan prepared pursuant to section 55 of the Civil Administrative Code.

"Nonprofit hospital" means any hospital owned and operated by a corporation or association, no part of the net earnings of which inures, or may lawfully inure, to the benefit of any private shareholder or individual.

"Construction" means construction of new buildings, expansion, remodeling, and alteration of existing buildings, and initial equipment of any such buildings, including architects' fees, but excluding the cost of off-site improvements and the cost of the acquisition of land.

Sec. 3. In carrying out the purposes of this Act, the Director is authorized and directed:

(a) To require such reports, make such inspections and investigations and prescribe such regulations as he deems necessary;

(b) To provide such methods of administration, appoint such personnel, subject to the State Civil Service Law, and take such other action as may be necessary to effectuate the purposes of this Act;

(c) To procure in his discretion the temporary or intermittent services of experts or consultants or organizations thereof, by contract, when such services are to be performed on a part-time or fee-for-service basis and do not involve the performance of administrative duties:

(d) To the extent that he considers desirable to effectuate the purposes of this Act, to enter into agreements for the utilization of the facilities and services of other departments, agencies, and institutions, public or private;

(e) To accept on behalf of the state and to deposit with the State Treasurer, except as otherwise provided by law, any grant, gift or contribution made to assist in meeting the cost of carrying out the purposes of this Act, and to expend the same for such purpose;

(f) To make an annual report to the Governor and a biennial report to the General Assembly on activities and expenditures pursuant to this Act, including recommendations for such additional legislation as the Director considers appropriate to furnish adequate hospital, clinic, and similar facilities to the people of this state.

Sec. 4. The Director shall by regulation prescribe minimum standards for the maintenance and operation of hospitals which receive aid for construction under the state plan.

Sec. 5. Applications for hospital construction projects for which funds are requested shall be submitted to the Director and may be submitted by any political sub-division of this State or by any municipal corporation therein or by any public or non-profit agency authorized to construct and operate a hospital. Each application for a construction project shall set forth:

1. A description of the site for such project;

2. Plans and specifications therefor in accordance with the regulations prescribed by the Director;

3. Reasonable assurance that title to the site is or will be vested solely in the applicant;

4. Reasonable assurance that adequate financial support will be available for the construction of the project and for its maintenance and operation when completed.

Each application shall also conform to applicable state regulations.

An amendment or modification of any approved plan shall be subject to approval in the same manner as an original application.

Sec. 6. The Director shall afford to every applicant for a construction project an opportunity for a fair hearing. If the Director, after affording reasonable opportunity for development and presentation of applications in the order of relative need, finds that a project application complies with the requirements of section 5 of this Act and is otherwise in conformity with the state plan, he shall approve such application.

Sec. 7. For each project for which the Director has approved a plan there shall be allotted from money appropriated for the purposes of this Act a sum of not more than one-third of the actual cost of construction of the hospital. This allotment shall be in addition to any money made available from federal funds.

In the event that state funds are inadequate for granting aid to all approved projects, the Director with the advice of the Advisory Council shall give priority to hospitals from areas where the need for hospital facilities is greatest.

The Director shall make periodic inspections of each approved construction project, and, if the inspection so warrants, shall issue a voucher directing the Auditor of Public Accounts to draw his warrant upon the State Treasurer for payment of the amount due.

The money paid under this Act for the construction of an approved project shall be used solely for such purpose.

If any hospital for which state monies have been paid under this Act shall, at any time within twenty years after completion of construction,

(A) be sold or transferred to any person, agency, or organization,

(1) which is not qualified to file an application under this Act, or

(2) which is not approved as a transferee by the Department; or

(B) shall cease to be a public or non-profit hospital, the State of Illinois shall be entitled to recover from either the transferor or transferee (or, in case of a hospital which has ceased to be a public or non-profit hospital, from the owners thereof) one-third of the then value of the hospital or the amount of state contributions thereto, whichever is the lesser, as determined by agreement of the parties.

Sec. 8. The sum of eighty thousand dollars ($80,000), or so much thereof as may be necessary is appropriated to the Department for administrative expenses in connection with carrying out the provisions of this Act.

Sec. 9. The invalidity of any particular section, clause or provision, contained herein, shall not affect the validity of this Act as a whole nor of any other section, clause or provision.

CIVIL ADMINISTRATIVE CODE AS AMENDED (HB 284)

A BILL

For an Act to amend Sections 6 and 55 of "The Civil Administrative Code of Illinois," approved March 7, 1917, as amended.

Be it enacted by the People of the State of Illinois, represented in the General Assembly:

Section 1. Sections 6 and 55 of "The Civil Administrative Code of Illinois," approved March 7, 1917, as amended, are amended to read as follows:

Sec. 6. Advisory and non-executive boards, in the respective departments, are created as follows:

* * * * *

An Advisory Hospital Council: The Governor shall appoint an Advisory Hospital Council to advise and consult with the Department of Public Health in carrying out the administration of the "Hospital Survey and Construction Act," enacted by the 79th Congress. The Hospital Advisory Council shall also consult with the Department of Public Health in carrying out the administration of "An Act in relation to the licensing and regulation of public and private hospitals and sanitariums, maternity hospitals, lying-in homes, rest homes, nursing homes, boarding homes, and other institutions and places providing hospitalization or inpatient or nursing care for persons and to repeal certain Acts herein named."

The Council shall consist of the Director of Public Health who shall serve as chairman, ex-officio, the Director of the Illinois Public Aid Commission, ex-officio, the Director of the Department of Public Welfare, ex-officio, and the following:

5 individuals in the field of hospital administration,

5 individuals in the fields of medicine, surgery and dentistry,

5 individuals with a public interest.

Each appointive member shall be appointed by the Governor and shall hold office for a term of four years, except that any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term and the terms of office of the members first taking office shall expire, as designated at the time of appointment, three at the end of the first year, four at the end of the second year, four at the end of the third year and four at the end of the fourth year, after the date of appointment. The

term of office of each original appointee shall commence July 1, 1947; the term of office of each successor shall commence on July 1 of the year in which his predecessor's term expires. Council members, while serving on business of the Council, shall receive actual and necessary travel and subsistence expenses while so serving away from their places of residence. The Council shall meet as frequently as the Director of Public Health deems necessary, but not less than once each year. Upon request of three or more members, the Director of Public Health shall call a meeting of the Council.

* * * * *

21. To conduct a State-wide inventory of existing hospitals and a survey of need of hospitals and to adopt a State plan, based upon such inventory and survey, containing a hospital construction program; and to make reports in such form and containing such information as the Surgeon General of the United States Public Health Service may from time to time reasonably require; and to do all other things on behalf of the State as may be necessary in order for the State to participate in the benefits of the "Hospital Survey and Construction Act," enacted by the 79th Congress. The Department of Public Health is designated as the sole State agency for the administration of such State plan and as the agency for receiving payments to the State from the United States of America in accordance with the provisions of such Act of Congress.

22. To accept, receive and receipt for Federal monies, for and in behalf of the State, given by the Federal government under any Federal law to the State for general health purposes, surveys or programs, including the following:

1. Venereal disease control;
2. Tuberculosis control;
3. Maternal and child hygiene;
4. Emergency maternal and infant care;
5. Cancer control;
6. Industrial hygiene;
7. Mental health.

Such funds received by the Department of Public Health shall be deposited with the State Treasurer and held and disbursed by him in accordance with "An Act in relation to the receipt, custody and disbursement of money allotted by the United States of America or any agency thereof for use in this State," approved July 3, 1939, as amended.

HOSPITAL AUTHORITY ACT (S. B. 221)

A BILL

For an Act in relation to hospital authorities.

Be it enacted by the People of the State of Illinois, represented in the General Assembly:

Section 1. Purposes of Act.

The establishment and continued maintenance and operation of safe, adequate, and necessary public hospitals and public hospital facilities within the State of Illinois and the creation of hospital authorities having powers necessary or desirable for the establishment and continued maintenance and operation of such hospitals and facilities are declared and determined to be in the public interest, and such powers and the corporate purposes and functions of such authorities, as herein stated, are declared to be public and governmental in nature and essential to the public interest.

Sec. 2. Definitions.

"Facilities" means and includes real estate and any and all forms of tangible and intangible personal property and services used or useful as an aid, or constituting an advantage or convenience to the safe and efficient operation or maintenance of a public hospital.

"Board of Commissioners" and "Board" mean the board of commissioners of an established authority or an authority proposed to be established.

"Hospital Authority" means a municipal corporation created and established under Section 3 of this Act. "Authority" and "Hospital Authority" are synonomous.

"Municipality" means any city, village or incorporated town of the State of Illinois.

"Public Agency" means any political subdivision, public corporation, quasi-municipal corporation, or municipal corporation of the State of Illinois, excepting public corporations or agencies owning, operating or maintaining a college or university with funds of the State of Illinois.

"Public Hospital" means a hospital owned by a hospital authority or other public agency which is used or is intended for use by the public including paupers.

"Public Interest" means the protection, furtherance and advancement of the general welfare and of public health and safety and public necessity and convenience in respect to hospitalization.

Sec. 3. Creation of a Hospital Authority.

Any area of compact and contiguous territory having a population of not less than five thousand and containing one or more municipalities as defined by this Act, and in which there is not any territory contained within the corporate limits of an existing Hospital Authority may be incorporated as a Hospital Authority in the manner following, to-wit:

1. Any five hundred or more electors residing within the area may file with the county clerk of the county in which the area is situated, a petition addressed to the judge of the county court. The petition shall set forth (1) a description of the territory intended to be embraced in the proposed Authority, (2) the names of the municipalities located within the area, (3) the name of the proposed Authority, and (4) a request that the question be submitted to the electors residing within the limits of the proposed Authority whether they will incorporate as an Authority under this Act for the purpose of constructing and maintaining a general hospital, the approximate location of which shall be. . . . . .The said petitioners

in and by said petition shall authorize and designate one or more persons to appear for and represent them on said petition, and in the proceedings thereon in said county court, with authority to amend, to move to dismiss or to withdraw said petition. Upon the filing of the petition with the county clerk, he shall present same to the judge of the county court and the said county judge shall set the said petition for hearing within not less than thirty nor more than forty days after the filing thereof.

Notice shall be given by such county judge of the time and place where such hearing will be held by publication on three separate days in one or more daily or weekly newspapers having a general circulation within the territory proposed to be incorporated as a Hospital Authority, the first of which publications shall be not less than twenty days prior to the date set for such hearing, and if there is no such newspaper, then such notice shall be posted in ten of the most public places in such territory, not less than twenty days prior to the date set for such hearing. The filing fee on said petition and costs of printing and publication or posting of notices of public hearing thereon shall be paid in advance by petitioners, and they shall be reimbursed out of the first funds received by the Authority from taxation or other sources.

2. The county judge may continue the hearing on said petition from time to time. Should it appear on such public hearing that a part only of any municipality is included within the territory described in said petition, then such petition shall be amended upon motion of the petitioners, by their said representatives, to either include or exclude all of such municipality, and such motion shall be allowed by the county judge. Upon such public hearing the petitioners, by their representatives, may also move to otherwise amend their petition or to dismiss or to withdraw said petition, and any such motion shall be allowed by the county judge. If such petition is not so dismissed or withdrawn, said county judge by written order shall find and determine whether such territory meets the requirements of this Act, and the sufficiency of the petition as filed or amended, and of the proceedings thereon and the population of each municipality included within such territory. A petition shall not be sufficient if five hundred or more petitioners do not legally reside within the territory proposed to be incorporated by the petition as originally filed and as thereafter considered by the court, or if a whole municipality is not included within said territory. If such territory, petition and proceedings meets the requirements of this Act, such order shall call an election as prayed in said petition to be held not less than thirty nor more than ninety days thereafter; provided, that if said territory shall include any land outside the corporate limits of any municipality, and if a petition signed by 1,000 legal voters, or not less than 10% of the registered legal voters, residing within that portion of the territory lying outside the corporate limits of any municipality, whichever is fewer, requesting a separate vote in such unincorporated area, is presented to the county judge at the time of the public hearing, such order shall provide that the returns of said election from polling places wholly outside the corporate limits of any municipality and the returns from polling places within the remaining portion of the territory shall be separately canvassed.

Should two or more petitions covering in part the same territory be filed prior to the public hearing upon the petition which is first filed, such petitions shall be consolidated for public hearing, and hearing thereon may be continued to permit the giving of notice upon any such petition or petitions.

At the public hearing upon such petitions, the petitioners in the petition first filed, by their said representatives, may move to amend such petition to include any part of the territory described in any such other petition which is contiguous with the territory described in the first petition, either as originally filed or as amended. Any such motion shall be allowed by the county judge. The public hearing shall proceed upon the first petition as originally filed or as so amended, and further proceedings upon any such other petitions subsequently filed shall be stayed and held in abeyance until the termination of all proceedings upon the first petition, or any such petition may be dismissed or withdrawn upon motion of the petitioners therein, by their representatives.

3. Notice of such election shall be given by publication on three separate days in one or more daily or weekly newspapers having general circulation within said territory, the first of which publications shall be not less than thirty days prior to the date of the election, and by posting notices in ten of the most public places in said territory, and, in case no newspaper has a general circulation in such territory, such notices shall be so posted in fifteen of the most public places therein, not less than thirty days prior to the date of the election. Each such notice shall state briefly the purpose of said election, setting forth the proposition to be voted upon and a description of said territory. Said notice shall further state that any such authority upon its establishment shall have the powers, objects and purposes provided by this Act, including the power to levy a tax of not to exceed .075 per cent of full, fair cash value, as equalized or assessed by the Department of Revenue, of all taxable property within the area of the Authority, for hospital operation and maintenance and other corporate purposes, and the power to issue tax secured bonds in the manner provided in this Act. Each legal voter residing within said territory shall have a right to cast a ballot at such election. The ballot shall be in substantially the following form:

Shall "An Act in relation to Hospital Authorities" effective the....day of....., 19.., be adopted, and the..... Hospital Authority be established?	YES	
(If established, said Hospital Authority will have the powers, objects and purposes provided by said Act, including the power to levy a tax of not to exceed .075 per cent of full, fair cash value of taxable property, as equalized or assessed by the Department of Revenue, for hospital operation and maintenance and other corporate purposes.	NO	

Such ballot shall be published in a newspaper or newspapers having general circulation within said territory prior to the holding of said election and if there be no such newspaper the form of such ballot together with a notice of said election shall be posted at each polling place in said territory not less than five days prior to said election, which posting shall be in addition to the posting of any other notices of said election herein required. Such election shall be conducted within said territory by the county judge, who, by an order entered of record in said proceeding, shall establish election precincts and designate the polling places therefor; provided, that if said territory shall include any land outside the corporate limits of any municipality, then the county judge shall establish one or more polling places wholly within said territory outside the corporate limits of any municipality and one or more polling places wholly within the remaining portion of the territory to be included with in the boundaries of said proposed Hospital Authority. The said county judge shall appoint the judges and clerks of election. Every person having resided in this State one year, in the county ninety days, and in the territory proposed to be incorporated as a Hospital Authority thirty days next preceding such election, and who shall be a citizen of the United States, above the age of twenty-one years, shall be entitled to vote at such election. Registration lists kept and maintained under the provisions of The Election Code may be used to establish the eligibility of any person desiring to vote and, in the case of any legal voter whose name does not appear upon a registration list, such eligibility may be established by sworn application or affidavit substantially in the form of the affidavit of registration for which provision is made by Section 5-7 of The Election Code.

Said election shall be conducted and said proposition shall be submitted within said territory under Section 28-3 of The Election Code and the provisions of The Election Code applicable to the conducting of general elections within such territory shall govern said election, except as by this Act it is otherwise provided.

The county judge shall canvass the returns of said election and by written order shall determine and declare the result of said election within said territory, which shall be described in said order, and shall cause same to be entered of record in said proceeding and to be enrolled upon the records of the county court.

4. In determining the population of said territory, or of any included municipality, the last federal, state or municipal census for said territory or municipality shall be used, and the population of that part of said territory for which no separate census previously has been taken may be determined by a census taken under the direction and supervision of the said county judge at any time prior to the entry of said order determining and declaring the result of said election, or may be established by other competent evidence.

5. In case the said territory is situated in two or more counties, then said petition shall be filed in the office of the county clerk of the county in which the greater portion of said territory is situated and it shall be the duty of the county judge of said county to set said petition for hearing, and to do the other acts above required to be performed by the county judge. The said county judge shall cause the order determining and declaring results of said election to be entered upon the records of his court and a certified copy thereof shall be filed with the county clerk of each such other county or counties who shall cause the same to be spread upon the records of the county court of such county or counties.

6. If a majority of the votes cast upon the question of the adoption of this Act and the establishment of a Hospital Authority shall be in favor of the same, the inhabitants thereof shall be deemed to have accepted the provision of this Act, and the same shall thence forth be deemed an organized Hospital Authority under this Act, having the name stated in said petition or such name as may be provided by ordinance in accordance with Section 12 of this Act; provided, that if said territory shall include any land outside the corporate limits of any municipality and the county judge pursuant to a petition requesting a separate vote has ordered that the votes in said territory outside the corporate limits of any municipality shall be separately canvassed as provided in paragraph 2 of this section, then the inhabitants of said territory shall not be deemed to have accepted the provisions of this Act and the Hospital Authority shall not be established unless a majority of the votes cast within the corporate limits of any municipality or municipalities and a majority of the votes cast in the territory outside the corporate limits of any municipality, respectively, shall each be in favor of the same. Within ninety days after the results of such election have been so determined, the said

board of commissioners of the Authority shall cause a certified copy of such order to be recorded in the office of the recorder of deeds of each county with which the Authority is situated and in the office of the Secretary of State, and the Secretary of State shall thereupon issue a certificate of incorporation to such Authority. Such requirement of filing is directory and failure to file within apt time shall not vitiate such organization.

Sec. 4. Board of Commissioners.

Every Authority so established shall be governed by a board of commissioners. In the order finding the results of the election to be favorable to the establishment of the Authority, the said county judge shall determine and name each municipality within the Authority having five thousand or more population according to the last census.

1. In case there are one or more municipalities having a population of five thousand or more within the Authority, the commissioners shall be appointed as follows:

(a) Where there is only one such municipality, three commissioners shall be appointed from such municipality, and one commissioner shall be appointed from the area within the Authority outside of such municipality, and one commissioner shall be appointed at large. If the Authority is located wholly within the corporate limits of such municipality, five commissioners of the Authority shall be appointed from such municipality.

(b) Where the area of the Authority is located wholly within one county, where there are two or more such municipalities, one commissioner shall be appointed from each such municipality, one commissioner shall be appointed from the area within the Authority located outside of such municipalities, and two commissioners shall be appointed at large. If the Authority is located wholly within the corporate limits of such municipalities, two commissioners shall be appointed from each of such municipalities and three commissioners shall be appointed at large.

(c) Where the area within an Authority comprises all or part of two or more counties two commissioners shall be appointed from each such municipality, two commissioners shall be appointed from the area of the Authority located outside of such municipality or municipalities and within the county having the largest area, one commissioner shall be appointed from each of the other counties of the Authority from the area outside any such municipality, where such area has a population of five thousand or more, and two commissioners shall be appointed at large.

(d) Commissioners representing any area within an Authority located outside of any such municipality having five thousand or more population shall be appointed by the county judge of the county in which such area is situated, and any commissioners representing the area within any such municipality shall be appointed by its presiding officer, and commissioners appointed at large shall be appointed by the county judge of the county in which the greater portion of the area of the Authority is situated.

(e) A commissioner representing the area within any such municipality shall reside within its corporate limits. A commissioner representing an area within an Authority and located outside of any such municipality shall reside within the area, from which he is appointed. A commissioner appointed at large may reside either within or without any such municipality but must reside within the territory of the Authority. Should any commissioner cease to reside within that part of the territory he represents, then his office shall be deemed vacated, and shall be filled by appointment for the remainder of the term as hereinafter provided.

2. In case there are no municipalities having a population of five thousand or more within such Authority, such order shall so find, and in such case the board shall consist of five commissioners who shall be appointed at large by the county judge. Each such commissioner shall reside within the Authority and shall continue to reside therein.

3. All initial appointments of commissioners shall be made within twenty days after the determination of the result of said election. Each appointment shall be in writing and a certificate thereof signed by *the* appointing officer shall be filed and made a matter of record in the office of the county clerk wherein said organization proceedings are filed. A commissioner shall qualify within ten days after appointment by acceptance and the taking of the constitutional oath of office, both to be in writing and similarly filed for record in the office of the said county clerk. Members initially appointed to the board of commissioners of such Authority shall serve from date of appointment for one, two, three, four and five years and shall draw lots to determine the periods for which they each shall serve. In case there are more than five commissioners, lots shall be drawn so that five commissioners shall serve initial terms of one, two, three, four and five years and the other commissioners shall serve terms of one, two, three, four or five years as the number of commissioners shall require and the drawing of lots shall determine. The successors of all such initial members of the board of commissioners of an Authority shall serve for terms of five years, all such appointments and appointments to fill vacancies shall be made in like manner as in the case of the initial commissioners. A commissioner having been duly appointed shall continue to serve after the expiration of his term until his successor has been appointed, and qualified.

Sec. 5. Judicial Notice of Existence of Authorities.

All courts shall take judicial notice of the existence and dissolution of a Hospital Authority and of the area of jurisdiction of an existing Authority.

Sec. 6. Qualifications of Commissioners and Removal from Office.

No person shall be appointed to the board of commissioners of any Hospital Authority who has any financial or professional interest in the establishment or continued existence thereof or who is a member of the governing body or an officer or employee of a municipality, of the state or federal governments, or of any other public agency.

Should it appear to the Department of Public Health that any member of the board of commissioners of a Hospital Authority may be disqualified, or guilty of misconduct or malfeasance in office or unwilling or unable to act, it shall notify the Board of commissioners of that fact in writing and it shall then be the duty of the board of commissioners to require such board member to show cause why he should not be removed from office. Any such person shall be given a hearing by said board of commissioners and, after such hearing, if said board of commissioners finds such a charge should be sustained, it shall remove the person so charged from office, and a vacancy shall thereupon exist for the unexpired term of such office.

Sec. 7. Powers of the Board, First Meeting, By-laws, etc.

The board of commissioners of an Authority shall possess and exercise all of its legislative and executive powers. Within thirty days after the appointment of the initial commissioners, the board shall meet. The time and place of the first meeting of the board shall be designated by the county judge. It shall then elect a chairman and also select a secretary, treasurer and such officers or employees as it deems expedient or necessary for the accomplishment of its corporate objects, none of whom need be a member of the board. The board at said meeting by ordinance shall define the first and subsequent fiscal years of the Authority, and shall adopt a corporate seal and by-laws, which shall determine the times for the annual election of officers and of other regular and special meetings of the board and shall contain the rules for the transaction of other business of the Authority and for amending such by-laws.

Each commissioner of any such Authority shall devote such time to the duties of such office as the faithful discharge thereof may require and shall serve without compensation.

Sec. 8. Nature and Powers.

A Hospital Authority shall constitute a municipal corporation and body politic separate and apart from any other municipality, the State of Illinois or any other public or governmental agency and shall have and exercise the following express governmental powers, and all other powers incidental, necessary, convenient, or desirable to carry out and effectuate such express powers:

1. To establish and maintain a public hospital and public hospital facilities within its corporate limits, and to construct, develop, expand, extend and improve any such hospital or hospital facility.

2. To acquire land in fee simple, rights in land and easements upon, over or across land and leasehold interests in land and tangible and intangible personal property used or useful for the location, establishment, maintenance, development, expansion, extension or improvement of any such public hospital or public hospital facility. Such acquisition may be by dedication, purchase, gift, agreement, lease, use or adverse possession or by condemnation.

3. To operate, maintain, manage, and to make and enter into contracts for the use, operation or management of and to provide rules and regulations for the operation, management or use of any public hospital or public hospital facility.

4. To fix, charge and collect reasonable fees and compensation for the use of occupancy for such public hospital or any part thereof, or any public hospital facility, and for nursing care, medicine, attendance, or other services furnished by such public hospital or public hospital facilities, according to the rules and regulations prescribed by the board from time to time.

5. To borrow money and to issue bonds, notes, certificates, or other evidences of indebtedness for the purpose of accomplishing any of said corporate purposes, subject, however, to a compliance with any condition or limitation set forth in this Act or otherwise provided by the constitution of the State of Illinois.

6. To employ or enter into contracts for the employment of any person, firm, or corporation, and for professional services, necessary or desirable for the accomplishment of the corporate objects of the Authority or the proper administration, management, protection or control of its property.

7. To maintain such hospital for the benefit of the inhabitants of the area comprising the Authority who are sick, injured, or maimed regardless of race, creed, or color, and to adopt such reasonable rules and regulations as may be necessary to render the use of the hospital of the greatest benefit to the greatest number; to exclude from the use of the hospital all persons who willfully disregard any of the rules and regulations so established; to extend the privileges and use of the hospital to persons residing outside the area of the Authority upon such terms and conditions as the board of commissioners prescribes by its rules and regulations.

8. To police its property and to exercise police powers in respect thereto or in respect to the enforcement of any rule or regulation provided by the ordinances of the Authority and to employ and commission police officers and other qualified persons to enforce the same.

The use of any such public hospital or public hospital facility of an Authority shall be subject to the reasonable regulation and control of the Authority and upon such

reasonable terms and conditions as shall be established by its board of commissioners.

A regulatory ordinance of an Authority adopted under any provision of this Section may provide for a suspension or revocation of any rights or privileges within the control of the Authority for a violation of any such regulatory ordinance.

Nothing in this Section or in other *provisions* of this Act shall be construed to authorize said Authority or board to establish or enforce any regulation or rule in respect to hospitalization or the operation or maintenance of such hospital or any hospital facilities within its jurisdiction which is in conflict with any federal or state law or regulation applicable to the same subject matter.

Sec. 9. Procedure for Eminent Domain.

In all cases where land in fee simple, rights in land, air or water, easements or other interests in land, air or water or property or property rights are acquired or sought to be acquired by said Authority by condemnation, the procedure shall be, as nearly as may be, in accordance with that provided for in "An Act to provide for the exercise of the right of eminent domain," approved April 10, 1872, as now or hereafter amended.

Section 10. Forms of Corporate Action.

Action of the board of commissioners of a Hospital Authority of a legislative character shall be in the form of an ordinance, and after adoption shall be filed with the secretary and shall be made a matter of public record in the office of the Authority. Other action of the board may be by resolution, motion or in other appropriate form, and executive or ministerial duties may be delegated to one or more commissioners or to an authorized officer, employee, agent, attorney, or other representative of the Authority. A majority of the commissioners appointed and qualified shall constitute a quorum to do business.

The enacting clause of any ordinance shall be substantially as follows: "Be it ordained by the board of commissioners of.....
.....Hospital Authority."

Section 11. Records of Authority and Officers' Bonds.

The Board shall provide for the proper and safe keeping of its permanent records and for the recording of the corporate action of the authority. It shall keep a true and accurate account of its receipts and an annual audit shall be made of its books, records and accounts. All officers and employees authorized to receive or retain the custody of money or to sign vouchers, checks, warrants or evidences of indebtedness binding upon the Authority shall furnish surety bond for the faithful performance of their duties and the faithful accounting for all moneys that may come into their hands in an amount to be fixed and in a form to be approved by the board.

Section 12. Change of Name.

Whenever an ordinance shall be adopted by the board of commissioners of said Authority by a two-thirds vote of the membership to change the name of such Authority, a certified copy of such ordinance shall be filed in the office of the county clerk of the county wherein such Authority or any portion thereof is located and thereupon such change of name of such Authority shall be effective.

Sec. 13. Annual Appropriations and Tax Levy.

Every Authority created under this Act is hereby empowered to levy and collect a general tax on all of the taxable property within the corporate limits of said Authority for the purposes of paying the cost of operating and maintaining the public hospital or any public hospital facility of the Authority, and any other corporate expenses of said Authority. The aggregate amount of such tax for one year, exclusive of the amount levied for bonded indebtedness of interest thereupon, shall not exceed the rate of .075 per cent of the full, fair cash value, as equalized or assessed by the Department of Revenue, of all the taxable property in said Authority.

The board of commissioners of any Hospital Authority shall establish the beginning and ending of its fiscal year and annually within the first quarter of the fiscal year shall adopt an appropriation ordinance appropriating such sums of money as are deemed necessary to pay the costs of operating and maintaining the public hospital facilities located within the corporate limits of the Authority and under the jurisdiction thereof and other expenses of said Authority and specifying the purpose of each appropriation made.

After the adoption of the appropriation ordinance and on or before the second Tuesday in August of each year, the board of commissioners shall ascertain the total amount of the appropriations legally made which are to be provided for from the tax levy for that year. Then, by an ordinance specifying in detail the purposes for which such appropriations have been made and the amounts appropriated for such purposes, the board of commissioners shall levy not to exceed the total amount so ascertained upon all the property subject to taxation within the authority as the same is assessed and equalized for state and county purposes for the current year.

Sec. 14. Cooperative Action with Other Government-Bonding Power.

A Hospital Authority may apply for and receive the grant or loan of money or other financial aid from the state or federal government or from any state or federal agency, department, bureau or board, necessary or useful for the undertaking, performance or execution of any of its corporate objects or purposes, and any such Authority may undertake the acquisition, establishment, construction, development or improvement of a public hospital within its corporate limits and hospital facilities incidental or appurtenant thereto, in cooperation with or as a joint enterprise with the state or federal

governments or with both the state and federal governments acting or represented by any state or federal agency, department, bureau or board.

An Authority may secure the necessary funds to finance part or all of the cost of acquiring, establishing, constructing, developing, expanding, extending or further improving a public hospital or public hospital facilities within its corporate limits, through the issuance of bonds, the principal amount of which at any one time outstanding shall not exceed five (5) per cent of the full, fair cash value, as equalized or assessed by the Department of Revenue, of all taxable property located within its corporate limits; provided, that no such authority shall issue bonds in excess of one and one-half per cent (1½%) of the full, fair cash value as equalized or assessed by the Department of Revenue, of all taxable property located within its corporate limits, unless the proposition to issue such bonds in excess of such 1½% of such full, fair, cash value shall have been first submitted to the legal voters of such authority at a general election or at any special election called for such purpose and shall have been approved by a majority of those voting upon the proposition.

Before the adoption of any ordinance providing for the issuance of such bonds, the board of commissioners of such Authority shall cause a description, specifications and plans for the project to be prepared and submitted to the State Department of Public Health, together with an estimate of the cost thereof. Said project and the plans, specifications and estimate of cost therefor may be changed, altered or modified at any time prior to the authorization of such bonds. Prior to the adoption of an ordinance providing for the issuance of such bonds and the acquisition or undertaking of such project, the final plans, specifications and estimate of cost therefor shall be approved by the State Department of Public Health. Upon the approval thereof by said Department of Public Health, the board shall provide by ordinance for the acquisition or undertaking of such project and shall set forth the portion or part thereof to be done or undertaken by the Authority, and the portion, or part, of the total cost to be paid by the Authority and for the issuance of bonds of said Authority, to pay the cost of said project incurred by the Authority. Said ordinance shall prescribe all details of the bonds and shall state the time or times when bonds, and the interest thereon, shall become payable and the bonds shall be payable within not less than five years nor more than twenty years from the date thereof and the interest payable thereon shall not exceed the rate of five per cent (5%) per annum. Said ordinance shall provide for the levy and collection of a direct annual tax upon all the taxable property within the corporate limits of such Authority sufficient to meet the principal and interest of said bonds as same mature, which tax shall be in addition to and in excess of any other tax authorized to be levied by said Authority.

A certified copy of the ordinance providing for the issuance of bonds authorized by this Section shall be filed with the county clerk of each county in which the Authority or any portion thereof is situated and shall constitute the basis for the extension and collection of the tax necessary to pay the principal of and interest upon the bonds issued under said ordinance as the same mature.

Such bonds may be made registrable as to principal and shall not be sold at less than par and accrued interest and shall be deemed to be negotiable instruments and shall be executed by the chairman of the Authority and its secretary and shall be sealed with the corporate seal of the Authority. The facsimile signatures of the chairman and the secretary of the Authority may be used on all interest coupons attached to said bonds in lieu of their actual signatures. In case any officer whose signature appears on the bonds, or any portion thereof, or in facsimile form to any coupons attached to the bonds, or any portion thereof, ceases to hold office before delivery of the bonds, his signature, nevertheless, shall be valid and sufficient for all purposes, the same as if he had remained in office until after the said bonds had been delivered.

Sec. 15. Obligations Payable from Operating Revenue.

The board of commissioners of an Authority, from time to time, may execute and deliver bonds, notes, or certificates of indebtedness, in such form as may be approved by the board and payable at such place and subject to such terms as may be therein specified, and in such denominations and amounts as the ordinance authorizing the issuance thereof may provide. Any such bonds, notes or certificates of indebtedness shall mature within thirty years from the date thereof and shall be payable solely from revenue derived from the operation, management or use of such public hospital, or any hospital facility in accordance with the rules, regulations, or contracts of the Authority. Such revenue obligations shall not be payable or paid out of funds derived by the Authority from taxation or by funds derived from the sale of any property belonging to said Authority. Any bond, note or certificate of indebtedness issued under this Section shall recite in the body thereof that the same is payable solely from the revenue pledged to pay the same, and shall state on its face that the same is not payable from taxation and that it is not a debt within the meaning of any statutory or constitutional limitation.

Sec. 16. Donation — Title to Property — Control.

Any person desiring to donate property for the benefit of a public hospital constructed or to be constructed under this Act may vest title to the property so donated in the board of commissioners created under this Act, and the board of commissioners shall hold and control the property so received and accepted according to the terms

of the deed, gift, devise or bequest of the property, and shall be a trustee of the property, and the board of commissioners shall take title to all property it may acquire in the name of the Authority and shall control such property for the purposes provided in this Act.

Sec. 17. Dissolution of an Authority.

In case any Hospital Authority has not become or has ceased to be the owner of a hospital and has fully discharged all of its debts and obligations or has arranged for the assumption thereof by any other public agency, it may be dissolved in the manner following:

Its board of commissioners shall adopt an ordinance finding and determining that the foregoing conditions exist and that the public interest does not require continuation of said Authority. A certified copy of such ordinance shall be delivered to the State Department of Public Health and if said Department of Public Health shall find and determine that the facts stated in said ordinance are true it shall so certify to the said board of commissioners of said Authority. Thereupon the said ordinance and certificate shall be published once in a daily or weekly newspaper or newspapers of general circulation within said Authority and, if there be no such newspaper, such ordinance and certificate shall be posted in ten of the most public places in said Authority. Unless a petition shall be filed with said board within sixty days after such publication or posting, containing the signatures of five hundred electors requesting that the question of the dissolution of said Authority be submitted to an election, said Authority shall be deemed to be dissolved at the expiration of said sixty day period. If such petition is filed then the question of the dissolution of said Authority shall be submitted to the electors of said Authority and the said board of commissioners shall fix the time and place for the holding of such election. Said election shall be held within ninety days after the filing of said petition with the said board.

The ballot to be voted at such election shall read substantially as follows:

Shall the.....	YES	
..... Hospital		
Authority be dissolved?	NO	

The said board of commissioners by ordinance shall call such election specifying the election precincts and polling places for said election. At least ten days notice of the submission of such question at an election shall be given by publication in a daily or weekly newspaper, generally circulated within said Authority and if there be no such newspaper, such notice shall be posted in ten of the most public places in said Authority not less than ten days prior to such election. Said election shall be conducted and said proposition shall be submitted under Section 28-3 of The Election Code, except as otherwise herein provided. The expense of said election shall be paid by the Authority, and provision for the payment thereof shall be made at the time of the consideration of such question by the board of commissioners of the Authority. The votes shall be counted, canvassed and returned by the judges of the election to the board of commissioners of said Authority who shall canvass the returns of said election and have the result thereof entered upon the corporate records of said Authority.

If a majority of the ballots cast at the election are marked "yes" the Authority shall be dissolved. But if a majority of the ballots cast at the election are marked "no", the corporate authorities shall proceed with the affairs of the Authority as though said dissolution ordinance had never been adopted, and, in such case, the proposition shall not again be considered for a period of two years. When the business and affairs of any such Authority have been closed up after the dissolution thereof such fact shall be certified by the chairman of its board of commissioners to the county clerk and recorder of the county or counties in which the Authority was situated and to the Secretary of State.

Sec. 18. Partial Invalidity.

If any provision of this Act, or the application of any provision thereof to any property, person or circumstance, is held to be invalid, such provision as to such property, person or circumstances shall be deemed to be excised from this Act, and the invalidity thereof as to such property, person or circumstance shall not affect any of the other provisions of this Act of the application of such provision to property, persons, or circumstances other than those as to which it is invalid, and this Act shall be applied and shall be effective in every situation so far as its constitutionality extends.

Section 19. The provisions of the 'Administrative Review Act', approved May 8, 1945, and all existing and future amendments and modifications thereof, and the rules now or hereafter adopted pursuant thereto, shall apply to and govern all proceedings for the judicial review of final administrative decisions of the Board of Commissioners hereunder. The term 'administrative decision' is defined as in Section 1 of said 'Administrative Review Act'.

TUBERCULOSIS SANITARIUM CONSTRUCTION (H.B. 280)

A BILL

For an Act to establish State Tuberculosis sanitariums for the care and treatment of persons afflicted with tuberculosis and to require certain governmental units to reimburse the State for the cost of such care and treatment.

EXCERPTS FROM SENATE BILL NO. 662 IN HOUSE

Illinois Hospital Construction Act	$ 4,675,000
For acquisition of land and interests in land for a site for a new mental institution in Cook County area	212,500
For acquisition of land in City of Chicago for the erection of a building for The Institute for Tuberculosis Research and Control	21,250
For acquisition of land and interests in land in Cook County for the location of a Cook County State Tuberculosis Sanitarium	85,000
For construction of a Tuberculosis Hospital in Cook Co.	5,000,000
For construction of a Tuberculosis Hospital at Mt. Vernon	850,000
For construction of a Tuberculosis Sanitarium in Carroll Co.	850,000
For construction of a building for an Institute for Tuberculosis Research and Control on land in Chicago	340,000
Acquisition of lands and interests in lands in the Medical Center District, in Chicago	2,273,750
Development work on land of the Medical Center Commission	85,000
Improvement of existing buildings and structures on lands of the Medical Center Commission	85,000
Demolition and disposal of buildings and structures on lands of the Medical Center Commission	42,500
Repairing buildings and structures of the Medical Center Commission	25,500
Acquisition and replacement of equipment for use in maintaining, improving and operating the properties of the Medical Center Commission	17,000
Ordinary and contingent expenses in connection with the operation and management of properties owned by the Medical Center Commission	21,250
Construction work for a new mental institution in the northern part of the State	1,487,500
Alton State Hospital	1,275,000
Anna State Hospital	1,966,050
Chicago State Hospital at Dunning	1,912,500
East Moline State Hospital	297,500
Elgin State Hospital	882,500
Jacksonville State Hospital	425,000
Kankakee State Hospital	2,700,000
Manteno State Hospital	500,000
Peoria State Hospital	1,685,000
Veteran's Rehabilitation Center at Chicago	425,000

APPENDIX B—SOCIO-ECONOMIC FACTORS

Table Number	Title	Page
1.	Population of Illinois by Residence, 1900-1940 Showing Percentage Increases Over Previous Censuses	147
2.	Population of Illinois by Age and Sex, 1900-1940	147
3.	Population of Illinois Counties, 1930-1940-1944	148
3A.	Negro Population, Illinois Counties 1930 and 1940	149
4.	Population of Illinois by Residence, 1920-1940	150
5.	Percentage of Population Classed as Urban, Rural-Nonfarm and Rural Farm and Population Per Square Mile, Illinois Counties, 1940	151
6.	Percentage of Population in Major Age Groups—Illinois Counties, 1940	152
	Chart on Employed Workers	153
7.	Employed Workers, Male and Female, 14 Years of Age and Over by Residence and Major Industrial Group, Illinois, 1940	154
8.	Number and Percentage of Rural-Farm Employed Males, 14 Years Old and Over Who Are Engaged in Non-agricultural Occupations, Illinois, 1940	154
9.	Live Births per 1,000 Females 15-44, Illinois Counties, 1940	155
	Charts on Infant and Maternal Mortality Trends (2)	155
10.	Infant and Maternal Mortality Rates and Stillbirth Ratios Illinois, 1925-1945	156
11.	Infant and Maternal Mortality Rates and Stillbirth Ratios by Race and Residence, Illinois, 1942	156
12.	Infant Mortality by Cause and Residence. Illinois, 1944	157
13.	Infant Deaths per 1,000 Live Births by Place of Residence Average 1942-1944, Illinois Counties	157
14.	Percentage of Births in Hospitals by Residence. Illinois, 1942	158
15.	Percentage of Births in Hospitals by Residence, Illinois, 1937-1942	158
16.	Percentage of Births Occurring in Hospitals to Total Births in Illinois Counties, 1942	159
17.	Percentage of Births Occurring in Hospitals by Place of Residence. Illinois Counties, 1943-1945	160
18.	Death Rates for Selected Causes. Illinois 1920-1940	161
19.	Deaths Per 1,000 Population by Race. Illinois, 1920-1930-1940	162
20.	Specific Death Rates By Race and Residence, Illinois, 1940* (*Exclusive of stillbirths. Rates are the number of deaths in a specific group per 1,000 population of that group.)	162
21.	Age-Specific Death Rates for Eight Leading Causes of Death. Illinois,1940	162
22.	Deaths per 100,000 People by Principal Cause, by Race and by Residence. Illinois, 1940	162
23.	Deaths per 1,000 Population. Illinois Counties. Average, 1942-1944	163
24.	Percentage of Deaths in Institutions by Residence. Illinois, 1937-1942	163
24A.	Percentage of Deaths Occurring in Hospitals to Total Deaths. Illinois, 1945	164
25.	Estimated Effective Buying Income Per Capita. Illinois Counties, 1944	165
26.	Per Capita Assessed Valuation. Illinois, 1945	166
27.	Number of Persons Dependent Upon the Major Public Aid Programs in Illinois by County and Rate per 1,000 Population for the Month of January, 1946	167

APPENDIX B—Socio-Economic Factors—Concluded

Table Number	Title	Page
28.	Percentage of Homes with Specified Equipment or Conveniences in Illinois Counties, 1940	168
29.	Percentage of Homes with Specified Characteristics and Percent of Persons 25 Years of Age and Over Having Completed More Than 6 Years in School. Illinois Counties, 1940	169
30.	Average Value of Homes. Illinois Counties, 1940	171
31.	Average of Ten Standard of Living Measures	172
32.	Percentage of Farms Having Automobiles and Telephones and Located on Dirt Roads. Illinois, 1940	173
32A.	Percentage of Pupils Who Were Enrolled in 1st Grade 12 Years Ago—Graduating From High School. Illinois, 1939	174
33.	Physicians by Activity and Age and Population per Physician. Illinois, 1943	175
34.	Distribution and Percentage of Physicians in Illinois by Size of Community and Degree of Specialization, 1943	176
35.	Distribution of Physicians and Population Per Physician by Speciality in Illinois, 1943. Population 7,593,255	177
36.	Number of Dentists and Population Per Dentist by County. Illinois, 1942	178
36A.	Public Health Nurses in Illinois as of June 4, 1946	179

APPENDIX B

SOCIO-ECONOMIC FACTORS

TABLE 1. POPULATION OF ILLINOIS BY RESIDENCE, 1900-1940 SHOWING PERCENTAGE INCREASES OVER PREVIOUS CENSUSES

Residence Groups	Census Year				
	1940	1930	1920	1910	1900
			Population		
Total	7,897,241	7,630,654	6,485,280	5,638,591	4,821,550
Urban	5,809,650	5,635,727	4,403,677	3,479,935	2,616,368
Rural	2,087,591	1,994,927	2,081,603	2,158,656	2,205,182
Rural-nonfarm	1,119,488	1,003,526	990,867	----------	----------
Rural-farm	968,103	991,401	1,090,736	----------	----------
	Percentage Increases Over Previous Censuses				
Total	3.5	17.7	15.0	16.9	26.0
Urban	3.1	28.0	26.5	33.0	52.2
Rural	4.6	—4.2	—3.6	—2.1	4.7
Rural-nonfarm	11.6	----------	----------	----------	----------
Rural-farm	—2.4	----------	----------	----------	----------
	Percentage Distribution				
Total	100.0	100.0	100.0	100.0	100.0
Urban	73.6	73.9	67.9	61.7	54.3
Rural	26.4	26.1	32.1	38.3	45.7
Rural-nonfarm	14.2	13.2	15.3	----------	----------
Rural-farm	12.3	13.0	16.8	----------	----------

Source: Sixteenth Census of the United States, 1940 Population, Second Series.

TABLE 2. POPULATION OF ILLINOIS BY AGE AND SEX, 1900-1940

Age Groups	1940	1930	1920	1910	1900
Total Population: Number	7,897,241	7,630,654	6,485,280	5,638,591	4,821,550
Percent	100.0	100.0	100.0	100.0	100.0
Under 15 years	21.6	26.0	29.2	29.5	33.0
15-44 years	49.1	50.1	49.0	50.9	49.5
Male	24.3	25.3	24.8	26.5	25.5
Female	24.8	24.8	24.2	24.4	24.0
45-64 years	22.0	18.3	17.0	15.0	13.3
65 years and over	7.2	5.5	4.6	4.3	3.9
Not reported	.0	0.1	0.1	0.3	0.2

Source: 16th Census of the United States, 1940. Second Series, Table 8.

TABLE 3. POPULATION OF ILLINOIS COUNTIES—1930, 1940, 1944

State and Counties	Total Population			Percentage Increase	
	1944	1940	1930	1930 to 1940	1940 to 1944
ILLINOIS	7,630,000	7,906,514	7,630,654	3.6	—3.5
Adams	58,801	64,830	62,784	3.2	—9.3
Alexander	21,034	25,389	22,542	12.6	—17.2
Bond	13,149	14,474	14,406	0.5	—9.2
Boone	14,763	15,189	15,078	0.7	—2.8
Brown	6,546	7,956	7,892	0.8	—17.7
Bureau	33,902	37,335	38,845	—3.9	—9.2
Calhoun	6,684	8,110	8,034	0.9	—17.6
Carroll	17,472	18,057	18,433	—2.0	—3.2
Cass	14,158	16,299	16,537	—1.4	—13.1
Champaign	69,119	71,232	64,273	10.8	—3.0
Christian	34,003	38,380	37,538	2.2	—11.4
Clark	15,890	18,616	17,872	4.2	—14.6
Clay	15,796	18,783	16,155	16.3	—15.9
Clinton	19,653	22,672	21,369	6.1	—13.3
Coles	34,477	38,293	37,315	2.6	—10.0
Cook	4,004,648	4,072,459	3,982,123	2.3	—1.7
Crawford	18,843	21,178	21,085	0.4	—11.0
Cumberland	9,576	11,574	10,419	11.1	—17.3
DeKalb	33,495	34,531	32,644	5.8	—3.0
DeWitt	16,046	18,103	18,598	—2.7	—11.4
Douglas	15,067	17,482	17,914	—2.4	—13.8
DuPage	112,619	105,011	91,998	14.1	7.2
Edgar	22,023	24,302	24,966	—2.7	—9.4
Edwards	7,961	8,928	8,303	7.5	—10.8
Effingham	18,319	21,806	19,013	14.7	—16.0
Fayette	23,970	28,892	23,487	23.0	—17.0
Ford	13,533	14,847	15,489	—4.1	—8.9
Franklin	44,665	52,926	59,442	—11.0	—15.6
Fulton	41,122	44,363	43,983	0.9	—7.3
Gallatin	9,261	11,317	10,091	12.1	—18.2
Greene	17,886	20,146	20,417	—1.3	—11.2
Grundy	18,550	18,498	18,678	—1.0	0.3
Hamilton	12,528	13,501	12,995	3.9	—7.2
Hancock	23,592	26,121	26,420	—1.1	—9.7
Hardin	7,832	7,848	6,955	12.8	—0.2
Henderson	7,740	8,916	8,778	1.6	—13.2
Henry	39,663	43,783	43,851	—0.2	—9.4
Iroquois	28,644	32,230	32,913	—2.1	—11.1
Jackson	33,437	38,020	35,680	6.6	—12.1
Jasper	11,101	13,318	12,809	4.0	—16.6
Jefferson	32,649	34,318	31,034	10.6	—4.9
Jersey	12,698	13,613	12,556	8.4	—6.7
JoDaviess	19,863	20,099	20,235	—0.7	—1.2
Johnson	8,396	10,604	10,203	3.9	—20.8
Kane	130,558	130,698	125,327	4.3	—0.1
Kankakee	61,585	61,298	50,095	22.4	0.5
Kendall	10,060	11,031	10,555	4.5	—8.8
Knox	47,853	52,063	51,336	1.4	—8.1
LaSalle	94,967	97,498	97,695	—0.2	—2.6
Lake	121,334	121,421	104,387	16.3	*
Lawrence	19,338	20,925	21,885	—4.4	—7.6
Lee	32,655	34,472	32,329	6.6	—5.3
Livingston	35,686	38,637	39,092	—1.2	—7.6
Logan	26,754	29,307	28,863	1.5	—8.7
McDonough	25,494	26,840	27,329	—1.8	—5.0
McHenry	37,611	37,567	35,079	7.1	0.1
McLean	66,117	73,613	73,117	0.7	—10.2
Macon	84,172	84,885	81,731	3.9	—0.8
Macoupin	40,832	45,990	48,703	—5.6	—11.2
Madison	163,833	151,933	143,830	5.6	7.8
Marion	40,360	47,385	35,635	33.0	—14.8
Marshall	11,428	13,187	13,023	1.3	—13.3
Mason	13,860	15,268	15,115	1.0	—9.2
Massac	12,822	14,872	14,081	5.6	—13.8
Menard	8,764	10,568	10,575	*	—17.1
Mercer	16,042	17,581	16,641	5.6	—8.8
Monroe	11,869	12,720	12,369	2.8	—6.7
Montgomery	28,889	34,086	35,278	—3.4	—15.2
Morgan	31,703	36,178	34,240	5.7	—12.4
Moultrie	11,503	13,294	13,247	0.4	—13.5
Ogle	28,201	29,902	28,118	6.3	—5.7
Peoria	144,254	152,991	141,344	8.2	—5.7
Perry	20,602	23,343	22,767	2.5	—11.7
Piatt	12,575	14,631	15,588	—6.1	—14.1
Pike	21,251	25,122	24,357	3.1	—15.4
Pope	5,896	7,879	7,996	—1.5	—25.2
Pulaski	13,142	15,811	14,834	6.6	—16.9
Putnam	4,544	5,238	5,235	*	—13.2
Randolph	29,706	33,339	29,313	13.7	—10.9
Richland	14,755	17,037	14,053	21.2	—13.4
Rock Island	116,706	114,209	98,191	16.3	2.2
St. Clair	173,735	168,496	157,775	6.8	—3.1

TABLE 3.—Concluded

State and Counties	Total Population			Percentage Increases	
	1944	1940	1930	1930 to 1940	1940 to 1944
Saline	31,290	37,694	37,100	1.6	—17.0
Sangamon	114,827	118,146	111,733	5.7	—2.8
Schuyler	9,375	11,310	11,676	—3.1	—17.1
Scott	6,643	8,110	8,539	5.0	—18.1
Shelby	22,609	26,118	25,471	2.5	—13.4
Stark	7,789	8,810	9,184	—4.1	—11.6
Stephenson	38,882	40,419	40,064	0.9	—3.8
Tazewell	57,230	58,505	46,082	27.0	—2.2
Union	19,010	21,487	19,883	8.1	—11.5
Vermilion	76,685	86,136	89,339	—3.6	—11.0
Wabash	13,093	13,724	13,197	4.0	—4.6
Warren	19,173	21,235	21,745	—2.3	—9.7
Washington	13,809	15,665	16,286	—3.8	—11.8
Wayne	18,706	22,026	19,130	15.1	—15.1
White	19,822	20,169	18,149	11.1	—1.7
Whiteside	41,388	43,271	39,019	10.9	—4.4
Will	118,376	115,208	110,732	4.0	2.7
Williamson	45,372	51,654	53,880	—4.1	—12.2
Winnebago	125,839	122,170	117,373	4.1	3.0
Woodford	17,452	18,993	18,792	1.1	—8.1

*Less than .1% change. Source: 16th Census of the United States, 1940. Population, Second Series, and Ill. Department Public Health, Div. Vital Statistics and Records.

TABLE 3A. NEGRO POPULATION, ILLINOIS COUNTIES 1930 AND 1940.

State and Counties	Negro Population		Percent of Total Population		Percentage Change 1930 to 1940
	1940	1930	1940	1930	
ILLINOIS					
Adams	1,369	1,344	2.1	2.1	1.9
Alexander	8,478	6,591	33.3	29.2	28.6
Bond	59	65	0.4	0.5	—9.2
Boone	32	16	0.2	0.1	100.0
Brown	2	4	*	0.1	—50.0
Bureau	60	90	0.2	0.2	—33.3
Calhoun	0	0	0.0	0.0	†
Carroll	62	73	0.3	0.4	—15.1
Cass	0	0	0.0	0.0	†
Champaign	2,135	2,040	3.0	3.2	4.7
Christian	98	150	0.3	0.4	—34.7
Clark	3	15	*	0.1	—80.0
Clay	3	13	*	0.1	—76.9
Clinton	144	173	0.6	0.8	—16.8
Coles	170	179	0.4	0.5	—5.0
Cook	294,157	246,992	7.2	6.2	19.1
Crawford	3	3	*	*	†
Cumberland	0	0	0.0	0.0	†
DeKalb	174	209	0.5	0.6	—16.7
DeWitt	57	56	0.3	0.3	1.8
Douglas	19	27	0.1	0.2	—29.6
DuPage	250	319	0.2	0.3	—21.6
Edgar	231	258	0.9	1.0	—10.5
Edwards	51	65	0.6	0.8	—21.5
Effingham	0	14	0.0	0.1	—100.0
Fayette	134	64	0.5	0.3	109.4
Ford	29	47	0.2	0.3	—38.3
Franklin	111	125	0.2	0.2	—11.2
Fulton	116	124	0.3	0.3	—6.5
Gallatin	202	226	1.8	2.2	—10.6
Greene	23	24	0.1	0.1	—4.2
Grundy	24	29	0.1	0.2	—17.2
Hamilton	0	0	0.0	0.0	†
Hancock	26	22	0.1	0.1	18.2
Hardin	47	60	0.6	0.9	—21.7
Henderson	34	38	0.4	0.4	—10.5
Henry	266	310	0.6	0.7	—14.2
Iroquois	153	105	0.5	0.3	45.7
Jackson	2,920	2,608	7.7	7.3	12.0
Jasper	15	22	0.1	0.2	—31.8
Jefferson	746	613	2.2	2.0	21.7
Jersey	41	55	0.3	0.4	—25.5

*Less than 0.1 percent.
†No change.

TABLE 3A.—Concluded

State and Counties	Negro Population		Percentage of Total Population		Percentage Change 1930 to 1940
	1940	1930	1940	1930	
JoDaviess	12	32	0.1	0.2	—62.5
Johnson	156	171	1.5	1.7	—8.8
Kane	1,949	1,787	1.5	1.4	9.1
Kankakee	1,933	979	3.2	2.0	98.0
Kendall	5	27	*	0.3	—81.5
Knox	1,089	1,108	2.1	2.2	—4.7
LaSalle	263	313	0.3	0.3	—16.0
Lake	2,707	2,356	2.2	2.3	14.9
Lawrence	203	276	1.0	1.3	—26.4
Lee	501	328	1.4	1.0	52.7
Livingston	756	540	1.9	1.4	40.0
Logan	420	355	1.4	1.2	18.3
McDonough	123	121	0.5	0.4	1.7
McHenry	46	35	0.1	0.1	31.4
McLean	860	964	1.2	1.3	—10.8
Macon	2,144	1,976	2.5	2.4	8.5
Macoupin	26	46	0.1	0.1	—43.5
Madison	7,128	6,750	4.8	4.7	5.6
Marion	1,231	1,164	2.6	3.3	5.8
Marshall	11	10	0.1	0.1	10.0
Mason	14	0	0.1	0.0	∞
Massac	1,705	1,719	11.4	12.2	—0.8
Menard	43	49	0.4	0.5	—12.2
Mercer	5	14	*	0.1	—64.3
Monroe	11	3	0.1	*	266.7
Montgomery	199	235	0.6	0.7	—15.3
Morgan	1,151	1,127	3.2	3.3	2.1
Moultrie	1	0	*	0.0	∞
Ogle	17	26	0.1	0.1	—34.6
Peoria	3,091	3,216	2.0	2.3	—3.9
Perry	599	649	2.6	2.9	—7.7
Piatt	4	9	*	0.1	—55.6
Pike	54	53	0.2	0.2	1.9
Pope	160	167	2.0	2.1	—4.2
Pulaski	5,943	4,946	37.4	33.3	20.2
Putnam	9	5	0.2	0.1	80.0
Randolph	1,852	1,508	5.5	5.1	22.8
Richland	3	2	*	*	50.0
Rock Island	1,517	1,488	1.3	1.5	1.9
St. Clair	21,567	15,550	12.9	9.9	38.7
Saline	1,347	1,542	3.5	4.2	—12.6
Sangamon	3,609	3,635	3.1	3.3	0.7
Schuyler	1	2	*	*	—50.0
Scott	1	18	*	0.2	—94.4
Shelby	14	23	0.1	0.1	—39.1
Stark	10	6	0.1	0.1	66.7
Stephenson	548	521	1.3	1.3	5.2
Tazewell	16	42	*	0.1	—61.9
Union	160	157	0.7	0.8	1.9
Vermilion	3,215	3,250	3.7	3.6	—1.1
Wabash	2	4	*	*	—50.0
Warren	383	441	1.8	2.0	—13.2
Washington	7	14	*	0.1	—50.0
Wayne	1	1	*	*	†
White	152	194	0.8	1.1	—21.6
Whiteside	30	54	0.1	0.1	—44.4
Will	3,410	3,131	3.0	2.8	8.9
Williamson	1,162	1,358	2.3	2.5	—14.4
Winnebago	1,419	1,305	1.2	1.1	8.7
Woodford	2	2	*	*	†

*Less than 0.1 percent. †No change.
Soure: 16th Census of the United States, 1940. Population: Second Series.

TABLE 4. POPULATION OF ILLINOIS BY RESIDENCE, 1920 to 1940

Class of Residence	1940	1930	1920	Increases 1930 to 1940	
				Number	Percent
Total	7,897,241	7,630,654	6,485,280	266,587	3.5
Urban	5,809,650	5,635,727	4,403,677	173,923	3.1
Urban-farm	10,804	7,848	7,526	2,956	37.7
Places 100,000–up	3,501,895	3,481,407	2,701,705	19,888	.6
25,000–100,000	1,004,553	1,005,034	700,310	—481	
10,000– 25,000	551,334	482,439	406,143	68,895	14.3
5,000– 10,000	442,945	393,926	324,046	49,019	12.4
2,500– 5,000	308,923	272,921	271,473	36,002	13.2
Rural	2,087,591	1,994,927	2,081,603	92,664	4.6
Rural-non-farm	1,119,488	1,003,526	990,867	115,962	11.6
Rural-farm	968,103	991,401	1,090,736	—23,298	—2.4
Places 1,000-2,500	338,459	327,745	351,142	10,714	3.3
Under 1,000	325,360	323,523	329,598	1,837	.6
Unincorporated Territory	1,423,772	1,343,659	1,400,863	80,113	6.0

Source: 16th Census of the United States, 1940. Population; Second Series, Illinois Table 2.

TABLE 5. PERCENTAGE OF POPULATION CLASSED AS URBAN, RURAL-NONFARM, AND RURAL-FARM AND POPULATION PER SQUARE MILE. ILLINOIS COUNTIES 1940

State and Counties	Total Population	Percentage			Density per Square Mile*
		Urban	Rural-Nonfarm	Rural-Farm	
ILLINOIS	7,897,241	73.5	14.2	12.3	141
Adams	65,229	62.0	15.8	22.2	75
Alexander	25,496	56.5	24.0	19.5	114
Bond	14,540	23.3	30.0	46.7	38
Boone	15,202	53.3	11.8	34.9	54
Brown	8,053	----	42.4	57.6	26
Bureau	37,600	27.2	37.5	35.3	43
Calhoun	8,207	----	31.2	68.8	32
Carroll	17,987	26.7	34.1	39.2	38
Cass	16,425	39.6	27.2	33.2	44
Champaign	70,578	53.0	24.1	22.9	71
Christian	38,564	37.1	32.6	30.3	54
Clark	18,842	28.2	20.7	51.1	37
Clay	18,947	28.9	24.3	46.8	41
Clinton	22,912	14.1	49.1	36.8	46
Coles	38,470	62.5	13.3	24.2	76
Cook	4,063,342	97.4	2.2	0.4	4,259
Crawford	21,294	20.3	40.3	39.4	48
Cumberland	11,698	----	37.9	62.1	34
DeKalb	34,388	47.8	21.5	30.7	54
DeWitt	18,244	34.8	29.1	36.1	46
Douglas	17,590	16.1	44.4	39.5	42
DuPage	103,480	70.7	22.5	6.8	313
Edgar	24,430	38.0	23.0	39.0	39
Edwards	8,974	----	54.2	45.8	40
Effingham	22,034	23.0	29.3	42.7	46
Fayette	29,159	18.1	30.5	51.4	41
Ford	15,007	20.7	35.6	43.7	31
Franklin	53,137	50.1	31.0	18.9	122
Fulton	44,627	26.0	40.9	33.1	51
Gallatin	11,414	----	49.8	50.2	35
Greene	20,292	27.5	30.0	42.5	37
Grundy	18,398	33.4	33.6	33.0	43
Hamilton	13,454	18.8	12.3	68.9	31
Hancock	26,297	9.8	43.3	46.9	33
Hardin	7,759	----	44.4	55.6	42
Henderson	8,949	----	45.7	54.3	24
Henry	43,798	53.7	17.0	29.3	53
Iroquois	32,496	11.5	38.6	49.9	29
Jackson	37,920	46.2	24.8	29.0	63
Jasper	13,431	----	31.9	68.1	27
Jefferson	34,375	42.9	19.1	38.0	60
Jersey	13,636	35.3	21.9	42.8	37
JoDaviess	19,989	20.7	36.4	42.9	33
Johnson	10,727	----	33.5	66.5	31
Kane	130,206	76.8	14.9	8.3	252
Kankakee	60,877	42.6	38.8	18.6	90
Kendall	11,105	----	50.6	49.4	35
Knox	52,250	61.4	17.2	21.4	72
LaSalle	97,801	66.8	13.9	19.3	85
Lake	121,094	65.7	27.2	7.1	265
Lawrence	21,075	29.5	29.8	40.7	56
Lee	34,604	30.8	37.3	31.9	48
Livingston	38,838	24.7	35.3	40.0	37
Logan	29,438	43.3	25.8	30.9	47
McDonough	26,944	43.3	20.4	36.3	46
McHenry	37,311	35.2	32.4	32.4	61
McLean	73,930	53.9	20.5	25.6	63
Macon	84,693	70.0	16.9	13.1	147
Macoupin	46,304	41.5	30.6	27.9	53
Madison	149,349	70.0	20.4	9.6	204
Marion	47,989	48.0	24.6	27.4	83
Marshall	13,179	----	57.1	42.9	33
Mason	15,358	26.1	35.0	38.9	28
Massac	14,937	42.1	22.8	35.1	61
Menard	10,663	24.3	30.4	45.3	34
Mercer	17,701	14.7	36.5	48.8	32
Monroe	12,754	----	50.8	49.2	34
Montgomery	34,499	40.9	25.4	33.7	49
Morgan	36,378	54.6	18.8	26.6	64
Moultrie	13,477	23.0	29.3	47.7	39
Ogle	29,869	23.5	35.8	40.7	40
Peoria	153,374	71.4	21.1	7.5	246
Perry	23,438	45.5	24.4	30.1	53
Piatt	14,659	17.2	38.9	43.9	34
Pike	25,340	11.4	38.9	49.7	31
Pope	7,999	----	30.5	69.5	21
Pulaski	15,875	----	61.7	38.3	78
Putnam	5,289	----	56.7	43.3	32
Randolph	33,608	26.1	45.2	28.7	57
Richland	17,137	45.7	12.8	41.5	47
Rock Island	113,323	81.8	10.8	7.4	270

TABLE 5.—Concluded

State and Counties	Total Population	Percentage			Density per Square Mile*
		Urban	Rural-Nonfarm	Rural-Farm	
St. Clair	166,899	65.1	27.7	7.2	249
Saline	38,066	43.0	32.1	24.9	99
Sangamon	117,912	64.0	22.3	13.7	134
Schuyler	11,430	----------	43.5	56.5	26
Scott	8,176	----------	50.3	49.7	33
Shelby	26,290	15.6	30.7	53.7	34
Stark	8,881	----------	49.7	50.3	31
Stephenson	40,646	55.0	18.3	26.7	72
Tazewell	58,362	50.9	30.5	18.6	89
Union	21,528	19.0	34.6	46.4	52
Vermilion	86,791	56.4	26.2	17.4	97
Wabash	13,724	50.9	15.9	33.2	62
Warren	21,286	42.8	19.0	38.2	39
Washington	15,801	----------	46.3	53.7	28
Wayne	22,092	18.1	18.4	63.5	31
White	20,027	20.5	33.3	46.2	40
Whiteside	43,338	51.1	21.9	27.0	63
Will	114,210	41.7	46.2	12.1	135
Williamson	51,424	52.4	27.2	20.4	117
Winnebago	121,178	72.1	20.4	7.5	233
Woodford	19,124	----------	53.9	46.1	36

*Sales Management—April 10, 1942. Source: 16th Census of the United States, 1940, Population: Second Series. Illinois Tables 21, 26, and 27.

TABLE 6. PERCENTAGE OF POPULATION IN MAJOR AGE GROUPS, ILLINOIS COUNTIES 1940

State and Counties	Total Population	Percentage					
		Under 15	15-44			45-64	65 Up
			Total	Male	Female		
ILLINOIS	7,897,241	21.6	49.1	24.3	24.8	22.0	7.2
Adams	65,229	21.0	44.4	21.8	22.6	23.6	11.1
Alexander	25,496	27.2	46.3	22.4	23.9	19.7	6.8
Bond	14,540	24.4	41.7	21.5	20.2	22.8	11.1
Boone	15,202	21.1	44.4	23.2	21.2	23.0	11.5
Brown	8,053	23.9	39.7	20.8	18.9	23.5	12.9
Bureau	37,600	22.7	44.6	22.8	21.8	22.7	10.1
Calhoun	8,207	29.8	43.4	23.1	20.3	18.3	8.5
Carroll	17,937	22.2	43.4	22.1	21.3	23.3	11.1
Cass	16,425	25.3	43.0	21.6	21.4	22.4	9.4
Champaign	70,578	21.7	50.5	27.3	23.2	20.1	7.7
Christian	38,564	24.8	44.5	22.1	22.4	21.8	8.9
Clark	18,842	23.7	42.6	21.6	21.0	21.5	12.1
Clay	18,947	26.7	45.8	23.7	22.1	18.7	8.8
Clinton	22,912	27.7	44.3	22.9	21.4	20.0	8.1
Coles	38,470	23.6	46.2	22.6	23.6	20.9	9.3
Cook	4,063,342	20.1	51.5	24.9	26.6	22.6	5.9
Crawford	21,294	24.7	44.0	22.0	22.0	21.6	9.6
Cumberland	11,698	26.6	42.4	21.3	21.1	20.7	10.3
DeKalb	34,388	21.7	45.6	23.1	22.5	22.9	9.9
DeWitt	18,244	24.4	43.6	21.7	21.9	22.4	9.6
Douglas	17,590	25.1	44.0	21.9	22.1	21.7	9.2
DuPage	103,480	24.5	47.6	23.3	24.3	21.5	6.4
Edgar	24,430	23.7	43.5	22 0	21.5	22.2	10.6
Edwards	8,974	24.5	42.4	21.3	21.1	21.6	11.5
Effingham	22,034	26.9	46.0	23.5	22.5	19.0	8.1
Fayette	29,159	26.4	47.2	25.5	21.7	18.7	7.7
Ford	15,007	23.9	44.2	22.8	21.4	22.0	9.9
Franklin	53,137	25.5	46.1	23.0	23.1	22.2	6.1
Fulton	44,627	23.9	44.5	22.8	21.7	21.4	10.1
Gallatin	11,414	28.1	44.4	23.5	20.9	19.4	8.0
Greene	20,292	25.8	41.4	21.1	20.3	22.1	10.8
Grundy	18,398	23.5	46.7	24.2	22.5	20.6	9.2
Hamilton	13,454	26.4	42.3	21.6	20.7	20.6	10.7
Hancock	26,297	22.9	40.7	20.4	20.3	23.0	13.4
Hardin	7,759	31.6	45.4	23.5	21.9	16.1	6.9
Henderson	8,949	26.9	42.4	21.8	20.6	21.3	10.3
Henry	43,798	22.0	45.1	23.0	22.1	23.2	9.8
Iroquois	32,496	24.0	44.9	23.4	21.5	22.0	9.1
Jackson	37,920	26.0	46.3	23.0	23.3	19.7	8.0
Jasper	13,431	25.7	42.4	22.3	20.1	21.5	10 4
Jefferson	34,375	25.4	47.3	24.0	23.3	19.2	8.1
Jersey	13,636	25.8	42.1	21 7	20.4	22.1	10.0
JoDaviess	19,989	23.7	42.6	22.2	20.4	22.4	11.3

TABLE 6.—Concluded

State and Counties	Total Population	Percentage					
		Under 15	15-44			45-64	65 Up
			Total	Male	Female		
Johnson	10,727	23.9	42.7	22.4	20.3	18.8	9.6
Kane	130,206	20.5	47.8	23.7	24.1	23.0	8.7
Kankakee	60,877	20.1	46.2	23.3	22.9	24.4	9.3
Kendall	11,105	23.4	44.2	23.1	21.1	22.5	9.8
Knox	52,250	21.6	46.0	23.0	23.0	22.2	10.2
LaSalle	97,801	23.2	46.9	23.8	23.1	21.4	8.6
Lake	121,094	21.7	51.8	28.1	23.7	20.6	5.8
Lawrence	21,075	26.9	44.2	22.2	22.0	20.3	8.6
Lee	34,604	22.7	47.9	24.7	23.2	20.8	8.6
Livingston	38,838	22.2	47.4	26.8	20.6	21.3	9.1
Logan	29,438	22.2	48.2	24.2	24.0	20.8	8.8
McDonough	26,944	23.0	43.2	21.4	21.8	22.6	11.1
McHenry	37,311	21.6	45.5	24.0	21.5	23.3	9.6
McLean	73,930	23.0	45.6	22.2	23.4	22.0	9.4
Macon	84,693	22.8	47.9	23.2	24.7	21.2	8.1
Macoupin	46,304	21.8	42.8	21.9	20.9	25.1	10.2
Madison	149,349	24.2	49.3	24.4	24.9	19.9	6.7
Marion	47,989	24.9	50.7	26.2	24.5	17.6	6.8
Marshall	13,179	23.9	43.4	22.6	20.8	21.9	10.7
Mason	15,358	24.1	43.0	22.3	20.7	22.4	10.5
Massac	14,937	25.6	45.6	22.5	23.1	20.4	8.5
Menard	10,663	24.1	43.2	22.1	21.1	22.1	10.6
Mercer	17,701	24.1	43.1	22.4	20.7	22.3	10.5
Monroe	12,754	23.7	44.5	23.5	21.0	22.6	9.2
Montgomery	34,499	23.5	42.8	21.6	21.2	23.1	10.6
Morgan	36,378	21.3	43.2	21.4	21.8	23.8	11.7
Moultrie	13,477	25.6	43.6	21.9	21.7	20.4	10.4
Ogle	29,869	22.9	44.6	23.0	21.6	22.5	10.0
Peoria	153,374	21.1	49.6	24.6	25.0	21.6	7.8
Perry	23,438	26.0	45.6	22.8	22.8	20.4	7.9
Piatt	14,659	25.4	43.4	22.0	21.4	21.4	9.8
Pike	25,340	24.1	42.7	22.2	20.5	21.9	11.3
Pope	7,999	27.5	42.8	22.6	20.2	20.3	9.4
Pulaski	15,875	29.2	43.5	21.7	21.8	19.3	7.9
Putnam	5,239	23.7	43.6	22.6	21.0	23.3	9.5
Randolph	33,608	22.6	48.7	23.3	20.4	20.3	8.5
Richland	17,137	25.0	46.8	22.9	23.9	18.6	9.6
Rock Island	113,323	21.4	48.5	24.5	24.0	22.5	7.7
St. Clair	166,899	22.7	49.3	24.5	24.8	21.0	7.0
Saline	38,066	26.1	46.3	22.8	23.5	20.3	7.3
Sangamon	117,912	21.5	48.4	23.0	25.4	22.0	8.1
Schuyler	11,430	24.9	42.5	22.1	20.4	21.6	11.0
Scott	8,176	25.2	42.4	21.8	20.6	20.8	11.6
Shelby	26,290	25.1	41.4	21.0	20.4	22.2	11.2
Stark	8,881	23.8	42.6	22.0	20.6	22.8	10.8
Stephenson	40,646	22.3	44.9	21.8	23.1	22.7	10.1
Tazewell	58,362	26.5	48.9	24.7	24.2	18.1	6.5
Union	21,523	24.9	43.4	22.4	21.0	21.7	10.0
Vermilion	86,791	23.5	45.5	22.7	22.8	22.5	8.6
Wabash	13,724	24.4	45.2	22.5	22.7	21.0	9.4
Warren	21,236	22.9	43.5	21.7	21.8	22.4	11.2
Washington	15,801	23.9	42.6	22.3	20.3	22.7	10.8
Wayne	22,092	28.1	44.2	22.9	21.3	18.7	9.0
White	20,027	25.5	45.0	23.1	21.9	20.0	9.5
Whiteside	43,338	25.0	46.1	23.8	22.3	20.2	8.7
Will	114,210	21.2	50.0	27.3	22.7	21.4	7.3
Williamson	51,424	25.1	45.6	22.6	23.0	21.6	7.7
Winnebago	121,178	21.5	49.0	24.3	24.7	22.1	7.4
Woodford	19,124	23.8	44.7	23.2	21.5	21.5	10.1

Source: 16th Census of the United States, 1940. Population: Second Series

EMPLOYED WORKERS BY INDUSTRY AND RESIDENCE, ILLINOIS, 1940

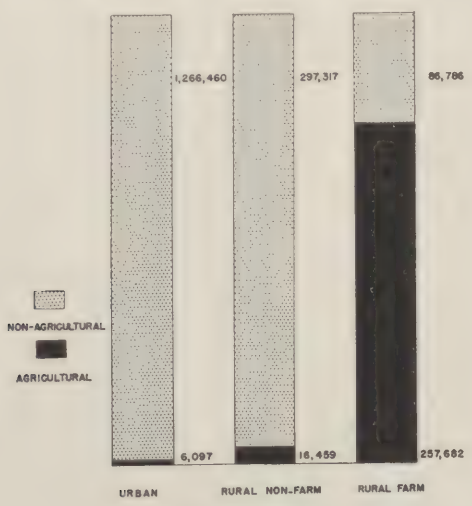


TABLE 7. EMPLOYED WORKERS, MALE AND FEMALE, 14 YEARS OF AGE AND OVER BY RESIDENCE AND MAJOR INDUSTRIAL GROUP, ILLINOIS—1940

Industry Group	Total		Percentage Distribution		
	Number	Percent	Urban	Rural non-farm	Rural farm
Total Employed	2,874,431	100.0	100.0	100.0	100.0
Agriculture, forestry, and fishery	285,202	9.9	0.5	5.4	78.5
Mining	49,208	1.7	1.0	6.5	2.0
Construction	117,247	4.1	4.1	6.4	1.7
Manufacturing	821,489	28.6	33.1	21.4	4.4
Transportation, Communication, etc.	257,676	9.0	9.9	9.8	1.6
Wholesale and Retail Trade	560,684	19.5	21.9	19.4	3.0
Finance, insurance, and real estate	117,215	4.1	4.9	2.1	0.4
Business and repair service	66,036	2.3	2.5	3.0	0 6
Personal Service	224,708	7.8	8.6	7.1	3.0
Amusement, recreation, etc.	26,696	0.9	1.0	0.9	0.2
Professional, etc.	210,444	7.3	7.7	9.3	2.8
Government	99,876	3.5	3.5	6.4	0.7
Industry not reported	37,950	1.3	1.2	2.3	1.1

Source: 16th Census of the United States. 1940 Population, Second series—Illinois Tables 18 and 19.

TABLE 8. NUMBER AND PERCENTAGE OF RURAL FARM EMPLOYED MALES, 14 YEARS OLD AND OVER, WHO ARE ENGAGED IN NON-AGRICULTURAL OCCUPATIONS, ILLINOIS—1940

State and Counties	Total Male Employed	Percentage in Non-Agricultural Occupations	Counties	Total Male Employed	Percentage in Non-Agricultural Occupations
ILLINOIS	305,221	15.6	Lawrence	2,194	36.0
			Lee	3,748	10.1
Adams	4,526	11.8	Livingston	4,970	6.7
Alexander	958	15.2	Logan	3,022	7.7
Bond	2,143	15.2	McDonough	3,170	9.7
Boone	1,997	9.4	McHenry	4,639	14.2
Brown	1,449	9.1	McLean	5,835	9.7
Bureau	4,575	6.6	Macon	3,364	24.3
Calhoun	1,516	12.9	Macoupin	4,116	11.9
Carroll	2,412	10.0	Madison	4,858	22.3
Cass	1,539	8.7	Marion	3,594	33.3
Champaign	4,984	14.3	Marshall	1,892	10.1
Christian	3,583	14.9	Mason	1,897	8.0
Clark	2,851	17.6	Massac	1,463	17.8
Clay	2,404	22.3	Menard	1,449	13.9
Clinton	2,753	9.3	Mercer	2,904	9.8
Coles	2,840	12.8	Monroe	2,262	11.3
Cook	5,876	28.4	Montgomery	3,586	11.3
Crawford	2,431	25.6	Morgan	2,954	9.7
Cumberland	2,162	16.7	Moultrie	1,896	13.6
DeKalb	3,753	9.4	Ogle	4,147	11.8
DeWitt	2,053	9.5	Peoria	3,676	27.5
Douglas	2,014	8.5	Perry	1,881	23.9
DuPage	2,441	29.8	Piatt	2,038	8.3
Edgar	2,995	11.4	Pike	3,766	10.2
Edwards	1,233	12.0	Pope	1,382	23.2
Effingham	2,918	16.3	Pulaski	1,231	18.4
Fayette	3,957	18.6	Putnam	729	7.5
Ford	2,209	5.9	Randolph	2,815	18.0
Franklin	2,166	49.8	Richland	2,078	20.3
Fulton	4,487	17.6	Rock Island	2,770	26.4
Gallatin	1,471	14.4	St. Clair	4,261	17.9
Green	2,571	8.8	Saline	2,059	38.8
Grundy	2,154	13.0	Sangamon	4,895	24.9
Hamilton	2,497	16.9	Schuyler	1,922	9.7
Hancock	3,949	8.2	Scott	1,133	9.1
Hardin	954	45.1	Shelby	4,259	10.3
Henderson	1,553	5.3	Stark	1,474	7.6
Henry	4,609	8.0	Stephenson	3,788	8.5
Iroquois	5,342	8.3	Tazewell	3,549	18.5
Jackson	2,957	20.7	Union	2,402	16.1
Jasper	2,910	8.8	Vermilion	4,348	19.7
Jefferson	3,429	26.2	Wabash	1,262	24.2
Jersey	1,865	14.1	Warren	2,710	8.9
JoDaviess	3,060	6.7	Washington	2,893	8.9
Johnson	1,745	17.2	Wayne	3,699	19.6
Kane	3,755	15.2	White	2,544	16.5
Kankakee	3,578	17.2	Whiteside	4,047	11.4
Kendall	1,859	14.0	Will	4,987	16.3
Knox	3,674	13.4	Williamson	2,121	39.1
LaSalle	6,366	13.5	Winnebago	3,173	21.4
Lake	2,990	27.9	Woodford	2,850	12.9

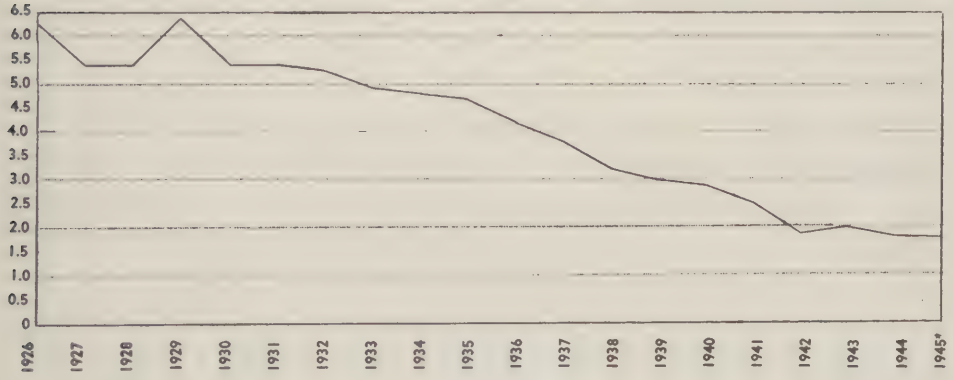
Source: 16th Census of the United States, 1940. Population: Second Series, Illinois

TABLE 9. LIVE BIRTHS PER 1,000 FEMALES 15-44, ILLINOIS COUNTIES—1940

County	Rate	No. of Births	County	Rate	No. of Births
ILLINOIS	63.5	124,615	Lawrence	86.5	400
			Lee	68.1	547
Adams	66.8	982	Livingston	73.5	587
Alexander	78.8	480	Logan	53.2	375
Bond	78.8	232	McDonough	76.5	450
Boone	70.0	226	McHenry	79.8	642
Brown	87.4	133	McLean	68.2	1,179
Bureau	72.8	597	Macon	72.1	1,507
Calhoun	106.6	178	Macoupin	64.6	626
Carroll	72.7	282	Madison	70.3	2,612
Cass	84.7	297	Marion	96.7	1,135
Champaign	74.7	1,224	Marshall	73.1	201
Christian	80.4	695	Mason	86.8	276
Clark	70.1	278	Massac	70.0	242
Clay	90.8	380	Menard	72.8	164
Clinton	75.7	371	Mercer	85.0	312
Coles	72.7	661	Monroe	70.5	189
Cook	55.7	60,343	Montgomery	69.1	505
Crawford	82.0	385	Morgan	69.3	549
Cumberland	72.2	178	Moultrie	83.9	245
DeKalb	72.9	565	Ogle	71.0	457
DeWitt	80.7	323	Peoria	69.1	2,644
Douglas	78.7	305	Perry	74.8	400
DuPage	56.7	1,428	Piatt	76.9	241
Edgar	75.1	396	Pike	83.2	433
Edwards	79.3	150	Pope	90.8	147
Effingham	89.8	446	Pulaski	87.3	302
Fayette	90.0	569	Putnam	66.5	74
Ford	81.3	261	Randolph	80.1	549
Franklin	79.4	977	Richland	87.5	359
Fulton	82.6	799	Rock Island	78.0	2,120
Gallatin	75.0	179	St. Clair	64.2	2,659
Green	90.6	372	Saline	76.5	684
Grundy	73.0	303	Sangamon	64.1	1,922
Hamilton	88.6	247	Schuyler	78.5	183
Hancock	77.8	414	Scott	76.7	129
Hardin	86.5	147	Shelby	81.1	436
Henderson	88.7	164	Stark	78.3	143
Henry	69.9	676	Stephenson	68.8	645
Iroquois	82.9	580	Tazewell	82.3	1,161
Jackson	74.0	653	Union	88.6	400
Jasper	81.7	220	Vermilion	73.9	1,458
Jefferson	76.6	614	Wabash	88.5	276
Jersey	79.2	220	Warren	76.0	352
JoDaviess	94.4	386	Washington	70.0	225
Johnson	96.0	209	Wayne	94.4	444
Kane	64.4	2,021	White	93.1	408
Kankakee	64.2	898	Whiteside	89.8	869
Kendall	65.3	153	Will	63.6	1,649
Knox	73.6	884	Williamson	75.8	899
LaSalle	71.9	1,622	Winnebago	65.6	1,965
Lake	63.4	1,824	Woodford	75.8	312

Source: Vital statistics Rates of the U. S. 1900-1940, Table 53.

TREND IN MATERNAL MORTALITY IN ILLINOIS PER 1,000 LIVE BIRTHS, 1926-1945



* 1945 figures provisional.

INFANT MORTALITY RATES IN ILLINOIS 1926-1945

DEATHS UNDER ONE YEAR—PER 1,000 LIVE BIRTHS

* 1945 figures provisional.

TABLE 10. INFANT AND MATERNAL MORTALITY RATES AND STILLBIRTH RATIOS, 1925-1945, ILLINOIS

Year	Deaths Under One Year Per 1,000 Live Births	Maternal Deaths Per 1,000 Live Births	Stillbirths Per 1,000 Live Births
1945	31.8*	1.8*	21.9*
1944	32.4	1.8	22.0
1943	33.2	2.0	22.2
1942	33.0	1.9	22.0
1941	33.9	2.5	23.8
1940	35.2	2.9	25.7
1939	37.9	3.0	25.5
1938	41.2	3.2	26.5
1937	43.1	3.8	26.7
1936	46.8	4.2	27.8
1935	45.9	4.7	29.8
1934	52.9	4.8	30.3
1933	49.5	4.9	30.2
1932	52.7	5.3	31.0
1931	53.6	5.4	34.4
1930	55.8	5.4	33.7
1929	61.5	6.4	34.7
1928	64.3	5.4	36.1
1927	64.4	5.4	35.2
1926	69.3	6.3	36.4
1925	72.5	5.6	36.1

Source: Illinois State Department of Public Health
Division of Vital Statistics and Records
*Provisional

TABLE 11. INFANT AND MATERNAL MORTALITY RATES AND STILLBIRTH RATIOS BY RACE AND RESIDENCE, ILLINOIS—1942

Race and Residence	Total Live Births	Infant Deaths per 1,000 Live Births	Maternal Deaths per 1,000 Live Births	Stillbirths per 1,000 Live Births
State: Total	156,232	33.1	2.1	22.0
White	147,724	32.4	2.0	21.4
Non-white	8,503	45.4	3.4	34.1
Urban: Total	119,878	31.8	2.1	23.0
White	111,777	31.0	2.0	22.3
Non-white	8,101	42.8	3.3	32.8
Rural: Total	36,354	37.2	2.1	19.0
White	35,947	36.6	2.1	18.6
Non-white	407	95.8	4.9	59.0

Source: *Vital Statistics of the United States,* 1942 Part II, Tables 1 and 23.

TABLE 12. INFANT MORTALITY BY CAUSE AND RESIDENCE, ILLINOIS—1944

Selected Causes	Total		Urban		Rural	
	No.	%	No.	%	No.	%
All causes	4,566	100.0	4,076	100.0	490	100.0
Permature birth	1,325	29.0	1,188	29.1	137	28.0
Congenital malformations	866	19.0	782	19.2	84	17.2
Pneumonia (all forms)	537	11.8	494	12.1	43	8.8
Injury at birth	621	13.6	548	13.9	73	14.9
Other diseases peculiar to first year	347	7.6	302	7.4	45	9.2
Diarrhea, enteritis, etc.	184	4.0	160	3.9	24	4.9
Mechanical suffocation and other accidents	137	3.0	123	3.0	14	2.9
Diseases of thymus gland	34	0.8	28	0.7	6	1.2
Congenital debility	52	1.1	46	1.1	6	1.2
Whooping cough	31	0.7	25	0.6	6	1.2
Other diseases of respiratory system	52	1.1	44	1.1	8	1.6
Influenza	52	1.1	47	1.2	5	1.0
Diseases of nervous system	3	0.0	3	0.0		
Intestinal obstruction	39	0.9	36	0.9	3	0.6
Diseases of ear and mastoid process	7	0.2	6	0.1	1	0.2
Syphilis	16	0.4	15	0.4	1	0.2
Diseases of circulatory system	6	0.1	6	0.2		
Ill-defined and unknown causes	21	0.5	16	0.4	5	1.0
Dysentery	9	0.2	7	0.2	2	0.4
Diseases of genito-urinary system	11	0.2	9	0.2	2	0.4
Measles	19	0.4	18	0.4	1	0.2
All other causes	197	4.3	173	4.3	24	4.9

Source: Illinois Department of Public Health Division of Vital Statistics and Records

TABLE 13. INFANT DEATHS PER 1,000 LIVE BIRTHS BY PLACE OF RESIDENCE. AVERAGE, 1942-1944, ILLINOIS COUNTIES

State and Counties	Infant Morality Rate 1942-1944	Counties	Infant Morality Rate 1942-1944
ILLINOIS	33.1	Lawrence	49.6
		Lee	71.9
Adams	32.5	Livingston	25.9
Alexander	77.3	Logan	55.1
Bond	35.8	McDonough	34.3
Boone	32.7	McHenry	28.1
Brown	46.9	McLean	38.7
Bureau	35.4	Macon	32.8
Calhoun	55.4	Macoupin	32.0
Carroll	39.8	Madison	46.5
Cass	44.6	Marion	43.7
Champaign	35.8	Marshall	32.1
Christian	41.7	Mason	41.9
Clark	27.2	Massac	62.2
Clay	36.0	Menard	26.5
Clinton	44.8	Mercer	30.9
Coles	37.3	Monroe	36.7
Cook	28.7	Montgomery	35.7
Crawford	26.6	Morgan	37.3
Cumberland	30.5	Moultrie	23.1
DeKalb	28.1	Ogle	41.9
DeWitt	31.6	Peoria	33.0
Douglas	36.5	Perry	33.9
DuPage	23.4	Piatt	28.8
Edgar	44.6	Pike	39.5
Edwards	33.2	Pope	63.4
Effingham	37.6	Pulaski	94.4
Fayette	60.6	Putnam	21.8
Ford	28.6	Randolph	36.4
Franklin	39.7	Richland	38.6
Fulton	37.1	Rock Island	37.4
Gallatin	66.8	St. Clair	48.9
Greene	44.9	Saline	51.8
Grundy	28.5	Sangamon	41.6
Hamilton	21.1	Schuyler	39.8
Hancock	65.7	Scott	36.7
Hardin	60.0	Shelby	35.3
Henderson	51.5	Stark	28.8
Henry	28.4	Stephenson	37.4
Iroquois	33.6	Tazewell	28.3
Jackson	49.8	Union	51.3
Jasper	33.1	Vermilion	34.6
Jefferson	40.5	Wabash	43.9
Jersey	40.9	Warren	29.5
JoDaviess	51.5	Washington	32.7
Johnson	50.1	Wayne	45.5
Kane	33.5	White	49.1
Kankakee	30.0	Whiteside	37.3
Kendall	11.9	Will	27.2
Knox	39.1	Williamson	48.7
LaSalle	36.6	Winnebago	34.5
Lake	30.1	Woodford	21.5

Source: Illinois Department of Public Health Division of Vital Statistics and Records

TABLE 14. PERCENTAGE OF BIRTHS IN HOSPITALS BY RESIDENCE, ILLINOIS—1942

Residence and Color	Total Births	Births in Hospitals	Percentage in Hospitals
ILLINOIS	156,232	132,614	84.9
White	147,724	126,384	85.6
Non-white	8,508	6,230	73.2
Urban	119,878	109,575	91.4
White	111,777	103,445	92.5
Non-white	8,101	6,130	75.7
Places 10,000 or more	104,173	97,064	93.2
White	96,295	91,033	94.5
Non-white	7,878	6,031	76.6
Places 2,500-10,000	15,705	12,511	79.7
White	15,482	12,412	80.2
Non-white	223	99	44.4
Rural	36,354	23,039	63.4
White	35,947	22,939	63.8
Non-white	407	100	24.6

Source: *Vital Statistics of the United States—1942*, Part II—Table 11.

TABLE 15. PERCENTAGE OF BIRTHS IN HOSPITALS BY RESIDENCE, ILLINOIS—1937-1942

Year	Number of Births			Percentage in Hospitals		
	Total	Urban[1]	Rural[1]	Total	Urban[1]	Rural[1]
1942	156,232	104,123	52,109	84.9	93.2	68.2[2]
1941	136,159	87,652	48,507	79.3	90.6	58.7
1940	124,615	78,788	45,827	73.9	87.1	51.2
1939	118,852	74,312	44,540	69.7	84.0	45.9
1938	123,537	78,730	44,807	67.1	81.4	42.0
1937	116,097	75,183	40,914	65.6	80.5	38.2

1. *Rural* in this table includes cities up to 10,000 in population, and *urban* includes only places over 10,000.
2. If *rural* did not include places over 2,500 in population, the 1942 percentage for rural areas would be 63.4.

Source: *Vital Statistics of the United States.* Part II for each year.
1937: Tables X and 7. 1938: Tables Z and 9
1939: Tables Z and 2. 1940: Tables T and 2
1941: Tables T and 2. 1942: Tables R and 11.

TABLE 16. PERCENTAGE OF BIRTHS OCCURRING IN HOSPITALS TO TOTAL BIRTHS, ILLINOIS COUNTIES—1942

County	Total Births	Percent in Hospitals	County	Total Births	Percent in Hospitals
ILLINOIS	156,232	84.9	Lawrence	294	30.6
			Lee	605	86.4
Adams	1,117	92.8	Livingston	625	87.7
Alexander	484	45.0	Logan	417	82.7
Bond	262	53.4	McDonough	477	69.8
Boone	304	95.7	McHenry	751	88.0
Brown	116	29.3	McLean	1,249	83.7
Bureau	605	86.9	Macon	1,717	89.5
Calhoun	131	6.9	Macoupin	677	56.9
Carroll	340	69.7	Madison	3,472	80.6
Cass	285	43.5	Marion	967	66.5
Champaign	1,549	90.8	Marshall	183	73.2
Christian	653	69.1	Mason	237	48.1
Clark	311	36.7	Massac	296	33.4
Clay	336	42.3	Menard	180	50.0
Clinton	431	62.9	Mercer	320	77.5
Coles	720	46.9	Monroe	235	54.9
Cook	82,544	93.9	Montgomery	566	65.9
Crawford	368	46.7	Morgan	494	66.4
Cumberland	194	32.5	Moultrie	248	38.7
DeKalb	708	95.2	Ogle	551	76.8
DeWitt	297	70.7	Peoria	3,203	93.2
Douglas	273	60.8	Perry	464	47.6
DuPage	2,065	95.1	Piatt	273	73.6
Edgar	412	62.9	Pike	437	49.0
Edwards	166	28.9	Pope	127	16.5
Effingham	433	60.5	Pulaski	286	16.1
Fayette	479	37.8	Putnam	91	73.6
Ford	285	71.6	Randolph	538	37.2
Franklin	945	42.8	Richland	334	54.8
Fulton	796	75.4	Rock Island	2,611	93.3
Gallatin	213	26.8	St. Clair	3,348	83.6
Greene	359	40.9	Saline	641	31.5
Grundy	410	87.8	Sangamon	2,155	88.6
Hamilton	282	36.5	Schuyler	155	53.5
Hancock	421	62.9	Scott	116	38.8
Hardin	171	45.0	Shelby	421	47.5
Henderson	195	55.9	Stark	159	68.6
Henry	791	89.3	Stephenson	715	83.9
Iroquois	547	66.4	Tazewell	1,367	87.6
Jackson	736	47.8	Union	377	36.6
Jasper	253	34.4	Vermilion	1,490	74.8
Jefferson	720	24.3	Wabash	247	30.4
Jersey	257	30.7	Warren	348	76.4
JoDaviess	456	55.7	Washington	227	41.0
Johnson	186	16.1	Wayne	437	24.3
Kane	2,643	98.6	White	408	19.6
Kankakee	1,256	72.2	Whiteside	901	70.6
Kendall	183	92.3	Will	2,481	93.5
Knox	969	85.9	Williamson	901	34.0
LaSalle	1,875	91.5	Winnebago	2,914	91.3
Lake	2,623	93.7	Woodford	344	67.2

Source: *Vital Statistics of the United States, 1942.* Part II, Table 11.

TABLE 17. PERCENTAGE OF BIRTHS OCCURRING IN HOSPITALS BY PLACE OF RESIDENCE, ILLINOIS COUNTIES—1943-1945

State and Counties	1943		1944		1945*	
	Total Live Births	Percent in Hospital	Total Live Births	Percent in Hospital	Total Live Births	Percent in Hospital
ILLINOIS	153,182	87.7	139,781	90.0	133,479	91.7
Adams	1,116	93.8	1,095	96.8	1,027	96.1
Alexander	457	50.8	404	56.4	406	53.9
Bond	242	64.0	215	74.9	214	79.4
Boone	271	95.9	314	98.7	247	98.8
Brown	124	40.3	102	46.1	119	53.8
Bureau	641	91.4	584	93.2	600	96.3
Calhoun	136	11.0	131	16.8	109	11.9
Carroll	366	79.8	314	85.4	279	88.9
Cass	278	65.1	265	76.2	239	85.8
Champaign	1,661	93.4	1,601	95.3	1,573	96.8
Christian	668	74.1	670	89.0	606	89.9
Clark	216	25.5	179	33.0	145	33.8
Clay	329	38.9	311	40.8	274	48.5
Clinton	393	70.5	389	74.0	387	87.1
Coles	723	63.1	704	69.5	626	77.3
Cook	80,357	94.6	71,864	95.3	70,886	95.5
Crawford	342	64.0	307	67.4	299	76.3
Cumberland	174	31.6	191	50.8	169	61.5
DeKalb	642	98.0	680	99.0	680	98.1
DeWitt	284	78.9	303	81.8	252	89.3
Douglas	300	62.3	277	76.2	262	80.5
DuPage	2,162	96.8	2,000	97.6	1,904	98.3
Edgar	415	82.2	374	86.1	359	88.0
Edwards	125	37.6	142	46.5	87	65.6
Effingham	368	64.9	367	71.9	378	78.8
Fayette	465	43.0	447	61.3	383	62.1
Ford	253	78.3	234	81.6	242	88.4
Franklin	900	53.7	821	67.1	724	73.3
Fulton	825	81.7	782	90.2	697	92.3
Gallatin	206	47.1	196	59.2	181	59.7
Greene	351	57.5	359	63.8	281	69 4
Grundy	463	90.5	416	95.0	392	95.2
Hamilton	266	42.1	208	48.6	191	72.3
Hancock	274	49.3	227	63.4	210	65.2
Hardin	177	40.7	172	32.6	145	51.0
Henderson	146	64.4	122	64.8	98	64.3
Henry	787	93.4	720	96.9	623	98.1
Iroquois	603	78.4	525	82.7	546	89.7
Jackson	701	65.9	635	73.1	539	82.3
Jasper	231	35.1	199	49.7	170	61.8
Jefferson	613	23.0	648	43.1	592	60.5
Jersey	247	43.3	227	46.7	230	58.3
JoDaviess	361	50.4	297	58.9	263	61.6
Johnson	176	22.2	177	31.1	135	31.1
Kane	2,509	98.7	2,387	98.9	2,039	99.5
Kankakee	1,195	79.4	980	85.3	982	89.6
Kendall	212	95.8	192	94.3	149	94.0
Knox	979	92.4	872	94.7	856	95.9
Lake	2,746	94.8	2,611	96.4	2,519	97.1
LaSalle	2,072	95.9	1,845	96.4	1,722	97.4
Lawrence	278	20.1	237	15.2	164	17.7
Lee	652	91 4	566	9₂.9	544	95.8
Livingston	673	88.0	643	91.1	605	91.2
Logan	429	88.3	427	92.7	399	93.7
McDonough	511	71.0	532	82.5	438	84.7
McHenry	843	91.9	726	95.3	683	95.8
McLean	1,261	87.4	1,274	92.2	1,215	94 6
Macon	1,845	93.0	1,749	95.7	1,629	96.4
Macoupin	631	64.7	655	74.0	626	78.1
Madison	3,531	82.6	3,100	85.0	2,833	87.3
Marion	864	73.8	850	78.1	766	84.6
Marshall	218	76.1	224	85.3	199	83.9
Mason	231	63 6	222	69.8	198	75.3
Massac	262	46.2	244	51.6	187	50.3
Menard	151	52.3	155	63.9	147	69.4
Mercer	288	83.0	248	85.5	227	87.7
Monroe	188	67.6	200	81.5	177	85.9
Montgomery	530	72.3	507	79.9	438	87.4
Morgan	493	74.8	447	82.6	450	84.2
Moultrie	231	51.5	255	59.6	215	68.8
Ogle	572	87.1	546	87.0	538	90.7
Peoria	2,952	95.9	2,770	96.1	2,637	96.9
Perry	411	59.4	392	70.2	375	81.3
Piatt	267	85.4	261	85.4	238	89.5
Pike	402	58.0	352	65.1	312	71.8
Pope	115	20.0	105	25.7	92	26.1
Pulaski	230	29.6	249	30.9	224	34.8
Putnam	91	87.9	90	96.7	82	91.5

TABLE 17.—Concluded

State and Counties	1943		1944		1945*	
	Total Live Births	Percent in Hospital	Total Live Births	Percent in Hospital	Total Live Births	Percent in Hospital
Randolph	535	51.0	467	57.4	475	67.4
Richland	311	69.5	290	77.6	301	83.7
Rock Island	2,418	94.0	2,185	96.1	2,001	97.3
St. Clair	3,418	87.0	3,266	89.5	2,792	90.9
Saline	626	46.5	631	62.1	530	69.8
Sangamon	2,197	90.3	2,099	93.7	1,990	94.9
Schuyler	140	57.9	181	69.1	140	79.3
Scott	119	49.6	114	60.5	99	60.6
Shelby	412	52.2	438	69.4	348	75.0
Stark	160	77.5	135	91.1	143	93.0
Stephenson	751	86.3	730	91.5	621	95.2
Tazewell	1,247	91.7	1,156	92.3	1,154	93.7
Union	347	59.9	365	63.5	352	71.3
Vermilion	1,527	80.7	1,400	89.0	1,327	91.3
Wabash	175	22.9	155	9.7	119	34.5
Warren	393	83.2	348	91.4	354	90.4
Washington	237	43.9	207	70.5	192	69.8
Wayne	407	22.6	394	25.1	336	39.3
White	367	18.8	305	18.4	295	26.1
Whiteside	903	77.5	822	83.2	774	86.3
Will	2,455	95.4	2,124	95.7	1,938	97.5
Williamson	905	49.8	807	58.5	749	61.0
Winnebago	3,056	95.4	2,752	96.4	2,384	97.1
Woodford	372	73.4	300	81.0	341	85.3

*Provisional statistics
Source: Division of Vital Statistics and Records.

TABLE 18. DEATH RATES FOR SELECTED CAUSES, ILLINOIS—1920-1940

Causes	Year				
	1940	1935	1930	1925	1920
All causes	1,117.2	1,103.9	1,094.6	1,116.9	1,235.2
Diseases of Heart	350.7	285.8	223.8	193.2	158.9
Cancer and Other Malignant Tumors	144.1	130.0	112.3	99.6	89.9
Nephritis	94.1	97.2	106.1	106.8	88.9
Intracranial Lesion of Vascular Origin	85.1	74.6	76.9	70.1	75.6
Pneumonia and Influenza	53.4	86.3	79.9	102.1	209.0
Tuberculosis: All Forms	46.2	52.5	63.2	75.8	98.6
Of Respiratory System	42.4	47.2	55.5	67.2	87.3
Other Forms	3.7	5.3	7.7	8.6	11.3
Other Accidents	43.8	44.5	49.7	63.0	58.6
Congenital Malformations and Diseases Peculiar to First Year of Life	38.9	42.7	55.6	67.6	73.7
Diabetes Mellitus	34.1	26.4	22.2	19.2	17.5
Motor Vehicle Accidents	29.4	29.6	28.9	17.4	10.9
Suicide	14.6	16.1	18.1	13.2	11.4
Syphilis	13.4	15.3	16.0	18.8	18.6
Cirrhosis of Liver	11.4	9.7	10.1	9.7	8.5
Appendicitis	10.7	13.3	17.7	16.9	15.2
Hernia and Intestinal Obstruction	9.9	11.6	11.8	10.9	10.2
Disease of Prostate	8.1	7.9	5.8	5.6	4.7
Ulcer of Stomach or Duodenum	7.5	7.9	7.2	7.0	4.0
Puerperal Causes	4.6	7.2	9.2	10.8	17.1
Diarrhea, Enteritis, Ulceration of Intestines	4.6	7.2	18.9	37.7	62.4
Homicide	4.6	7.3	10.5	10.5	7.2
Biliary Calculi	4.5	4.6	6.2	6.2	4.5
Exophthalmic Goiter	4.0	4.9	5.9	5.5	2.7
Bronchitis	3.6	3.7	4.5	7.7	14.4
Senility	2.9	2.0	5.2	5.4	8.6
Ill-defined Causes of Death	2.6	2.6	6.6	2.8	3.4
Diphtheria	1.1	2.7	7.1	5.6	16.9
Alcholism	0.9	1.2	2.5	4.1	0.7
Scarlet Fever	0.9	5.3	4.0	3.8	5.6
Whooping Cough	0.8	2.7	2.4	4.3	8.3
Dysentery	0.7	0.8	1.3	0.9	2.1
Typhoid and Paratyphoid Fever	0.5	1.2	2.0	4.5	5.7
Malaria	0.3	0.9	0.7	0.8	1.1
Measles	0.2	3.6	1.2	3.0	7.4

Source: *Vital Statistics Rates in the United States, 1900-1940.* Table 20.

TABLE 19. DEATHS PER 1,000 POPULATION BY RACE, 1920, 1930, 1940, ILLINOIS

Year	All Races	White	Non-White
1940	11.2	10.9	15.7
1930	11.0	10.6	17.7
1920	12.7	12.4	21.5

Source: Computed from *Vital Statistics Rates in the U. S. 1900-1940* . Table 4.

TABLE 20. SPECIFIC DEATH RATES BY RACE AND RESIDENCE, ILLINOIS—1940*

Race and Residence	Death Rate
Total	11.3
White	11.0
Non-white	15.8
Cities of 100,000 and over	11.1
Cities of 10,000 to 100,000	11.5
Cities of 2,500 to 10,000	10.8
Rural	11.6
White	11.5
Non-white	23.9

Source: *Vital Statistics Rates in the United States, 1900-1940.* Table 11.

*Exclusive of stillbirths. Rates are the number of deaths in a specific group per 1,000 population of that group.

TABLE 21. AGE—SPECIFIC DEATH RATES FOR EIGHT LEADING CAUSES OF DEATH, ILLINOIS—1940

Principal Cause of Death	Age Groups											
	All Ages	Under 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85-up
All Causes	1,117.2	4,178.8	217.8	103.5	179.0	281.1	516.4	1,104.1	2,301.9	5,052.6	11,662.4	20,581.0
Diseases of the heart	350.7	13.5	3.4	9.7	15.3	38.3	104.6	313.3	779.4	1,951.3	4,840.1	9,006.5
Cancer and Other Malignant Tumors	144.1	4.8	5.4	3.1	5.3	16.7	69.2	196.9	416.3	784.0	1,265.2	1,261.1
Nephritis	94.1	7.7	1.4	2.8	5.8	12.4	26.2	72.0	171.9	500.0	1,527.9	2,880.1
Intracranial Lesions of Vascular Origin	85.1	8.7	1.1	0.9	1.4	4.8	17.2	70.5	178.6	509.0	1,307.0	2,180.9
Accidental Death	73.2	101.0	37.0	28.5	47.3	46.1	52.1	74.7	116.9	196.8	480.7	944.8
Pneumonia and Influenza	53.4	556.1	48.1	7.1	8.2	14.2	25.2	46.6	86.6	178.3	476.6	1,082.1
Tuberculosis	46.2	24.1	12.2	4.2	35.3	53.5	63.4	67.5	71.1	67.7	60.6	54.1
Diabetes Mellitus	34.1	2.9	1.4	1.1	2.6	2.6	8.3	32.5	104.0	231.8	324.0	208.1

Source: *Vital Statistics Rates in the United States, 1900-1940.* Table 23

TABLE 22. DEATHS PER 100,000 PEOPLE BY PRINCIPAL CAUSE BY RACE AND BY RESIDENCE, ILLINOIS—1940

Principal Cause of Death	Rate		Ratio of Nonwhite to White Ratio	Rate Rural	Ratio Rural to Urban Rate
	Total	Nonwhite			
Total Deaths	1,128.2	1,580.5	143.1	1,164.0	104.4
Diseases of the Heart:					
All Forms	354.3	434.1	124.0	329.5	90.7
Chronic Rheumatic Diseases	22.8	26.5	117.3	25.8	118.9
Diseases of Coronary Arteries, Angina Pectoris	67.3	28.5	41.1	68.5	102.4
Diseases of the Heart (Other Forms)	264.2	379.1	146.9	235.2	85.7
Cancer and Other Malignant Tumors	142.6	121.4	84.5	127.9	86.5
All Other Causes	106.6	133.6	127.0	139.3	146.9
Intracranial Lesions of Vascular Origin	86.3	95.7	111.5	107.4	136.5
Nephritis	94.8	119.3	127.5	103.6	113.0
Influenza and Pneumonia (All Forms)	54.4	116.3	227.6	66.8	133.9
Other Accidents	45.0	48.3	107.8	50.6	117.7
Tuberculosis: All Forms	47.2	222.6	584.3	40.4	81.3
Of Respiratory System	43.5	197.7	556.9	37.9	83.1
Other Forms	3.7	24.9	957.7	2.5	61.0
Motor-vehicle Accidents	30.2	29.8	98.7	31.5	106.1
Diabetes Mellitus	34.5	35.6	103.5	28.4	77.4
Premature Birth	18.3	22.6	124.9	21.2	122.5
Suicide	14.7	7.1	47.0	13.5	89.4
Congenital Malformations	9.5	8.9	92.7	11.1	123.3
Syphilis	13.6	64.6	592.7	19.2	165.5
Appendicitis	11.0	14.0	129.6	11.3	103.7
Hernia, Intestinal Obstruction	10.0	10.4	104.0	10.1	101.0
Cirrhosis of the Liver	11.5	9.4	81.0	8.0	62.5
Biliary Calculi: Other Diseases of Gall Bladder	8.5	4.1	47.1	8.0	92.0
Ulcer of Stomach or Duodenum	7.7	6.4	82.1	6.8	85.0
Diseases of Ear, Nose, and Throat	5.5	6.1	113.0	6.3	123.5
Exophthalmic Goiter	4.0	2.3	56.1	4.1	102.5
Other Puerperal Causes	2.7	5.3	203.8	3.1	119.2
Diarrhea, Enteritis, and Ulceration of Intestines (Under two years)	2.7	3.6	133.3	5.0	263.2
Homicide	4.6	42.2	1,623.1	1.8	32.7
Puerperal Septicemia	1.9	5.9	347.1	1.6	80.0
Poliomyelitis, Polioencephalitis (acute)	0.7	0.3	37.5	1.0	142.9
Whooping Cough	0.8	1.3	162.5	1.4	233.3
Acute Rheumatic Fever	1.2	3.0	272.7	1.0	76.9
Scarlet Fever	0.9	1.0	111.1	1.0	125.0
Diphtheria	1.1	2.3	209.1	1.1	100.0
Cerebrospinal (Meningococcus) Meningitis	0.2	0.3	150.0	0.3	150.0
Typhoid and Paratyphoid Fever	0.5	1.0	200.0	1.0	333.3
Pellagra (except alcoholic)	0.2	1.0	500.0	0.5	250.0
Malaria	0.3	0.8	266.7	0.3	100.0

Sourse: Computed from *Vital Statistics of the United States, 1940.* Part II—Table 10.

TABLE 23. DEATHS PER 1,000 POPULATION. ILLINOIS COUNTIES, AVERAGE 1942-1944

County	Rate	County	Rate
ILLINOIS	11.5	Lawrence	10.3
		Lee	14.8
Adams	13.9	Livingston	10.6
Alexander	13.4	Logan	14.2
Bond	11.7	McDonough	12.3
Boone	12.4	McHenry	11.5
Brown	14.4	McLean	12.1
Bureau	13.0	Macon	10.5
Calhoun	10.9	Macoupin	12.2
Carroll	12.6	Madison	11.0
Cass	14.1	Marion	11.1
Champaign	9.8	Marshall	11.7
Christian	11.5	Mason	12.2
Clark	12.0	Massac	14.3
Clay	10.0	Menard	12.3
Clinton	10.7	Mercer	13.2
Coles	12 4	Monroe	10.7
Cook	11 2	Montgomery	12.2
Crawford	11.4	Morgan	21.1
Cumberland	10.1	Moultrie	13.1
DeKalb	11.3	Ogle	11.9
DeWitt	12.6	Peoria	12.5
Douglas	11.8	Perry	11.3
DuPage	8.7	Piatt	12.2
Edgar	12.4	Pike	12.9
Edwards	12.7	Pope	13.6
Effingham	10.6	Pulaski	13.5
Fayette	11.2	Putnam	12.7
Ford	12.0	Randolph	11.2
Franklin	11.2	Richland	11.3
Fulton	11.3	Rock Island	11.7
Gallatin	12.8	St. Clair	11.0
Greene	12.7	Saline	11.8
Grundy	11.1	Sangamon	11.6
Hamilton	10.8	Schuyler	12.7
Hancock	13.5	Scott	14.2
Hardin	10.0	Shelby	12.8
Henderson	11.6	Stark	12.5
Henry	11.9	Stephenson	12.6
Iroquois	10.8	Tazewell	8.5
Jackson	10.9	Union	25.6
Jasper	11.7	Vermilion	14.1
Jefferson	10.5	Wabash	10.5
Jersey	11.8	Warren	12.3
JoDaviess	12.9	Washington	11.5
Johnson	11.8	Wayne	10.5
Kane	13.6	White	10.1
Kankakee	22.9	Whiteside	11.0
Kendall	11.2	Will	10.4
Knox	12.4	Williamson	11.9
LaSalle	11.5	Winnebago	10.0
Lake	9.6	Woodford	10.5

Source: Illinois Department of Public Health Division of Vital Statistics and Records

TABLE 24. PERCENTAGE OF DEATHS IN INSTITUTIONS BY RESIDENCE, ILLINOIS—1937-1942

Year	Number of Deaths			Percentage in Institutions		
	Total	Urban[1]	Rural[1]	Total	Urban[1]	Rural[1]
1942	87,777	56,390	31,387	48.0	[2]	[2]
1941	86,532	55,609	30,973	47.1	51.2	39.6
1940	89,099	56,651	32,448	45.4	50.4	36.7
1939	87,623	56,207	31,416	44.7	50.5	34.2
1938	85,448	54,771	30,677	44.1	49.8	34.0
1937	88,384	57,210	31,174	44.4	50.2	33.6

1. *Rural,* in this table, includes cities up to 10,000 in population and *urban* includes only places above 10,000.
2. Not available by place of residence.
Source: *Vital Statistics of the United States,* Part II for each year.
1937: Tables L and 8. 1938: Tables M and 10.
1939: Tables M and 10. 1940: Tables K and 9.
1941: Tables K and 9. 1942: Tables K and 1.

TABLE 24A. PERCENTAGE OF DEATHS OCCURRING IN HOSPITALS TO TOTAL DEATHS, ILLINOIS—1945

County	Total Deaths	Percent in Hospitals	County	Total Deaths	Percent in Hospitals
ILLINOIS	83,441	48.9	Lawrence	236	15.3
			Lee	329	40.4
Adams	741	55.2	Livingston	373	37.8
Alexander	279	36.2	Logan	271	60.9
Bond	153	33.3	McDonough	324	41.4
Boone	191	52.9	McHenry	423	41.4
Brown	76	27.6	McLean	792	61.1
Bureau	412	47.1	Macon	913	56.6
Calhoun	54	16.7	Macoupin	476	37.6
Carroll	202	34.7	Madison	1,377	49.1
Cass	170	49.4	Marion	391	38.9
Champaign	649	55.0	Marshall	148	41.9
Christian	388	50.3	Mason	183	38.8
Clark	166	8.4	Massac	158	12.7
Clay	149	24.8	Menard	95	41.1
Clinton	181	42.0	Mercer	159	40.3
Coles	411	35.3	Monroe	139	28.1
Cook	44,885	52.0	Montgomery	366	41.3
Crawford	218	33.0	Morgan	343	52.2
Cumberland	123	23.6	Moultrie	161	46.6
DeKalb	420	51.0	Ogle	325	44.0
DeWitt	189	54.0	Peoria	1,467	52.3
Douglas	169	45.6	Perry	222	26.1
Dupage	931	47.0	Piatt	144	52.8
Edgar	246	32.5	Pike	245	32.7
Edwards	90	18.9	Pope	73	11.0
Effingham	204	43.1	Pulaski	192	18.8
Fayette	230	24.8	Putnam	58	55.2
Ford	150	44.0	Randolph	290	31.7
Franklin	502	28.1	Richland	156	42.3
Fulton	469	45.6	Rock Island	1,075	52.8
Gallatin	93	16.1	St. Clair	1,705	45.9
Greene	218	31.2	Saline	363	25.1
Grundy	213	38.0	Sangamon	1,296	71.8
Hamilton	106	12.3	Schuyler	128	37.5
Hancock	256	20.3	Scott	87	37.9
Hardin	79	22.8	Shelby	304	28.3
Henderson	58	17.2	Stark	113	39.8
Henry	466	51.9	Stephenson	481	55.3
Iroquois	306	30.1	Tazewell	515	53.2
Jackson	382	27.7	Union	169	14.8
Jasper	113	35.4	Vermilion	1,050	55.0
Jefferson	341	15.5	Wabash	149	9.4
Jersey	124	25.0	Warren	245	50.6
JoDaviess	217	21.2	Washington	140	19.3
Johnson	100	16.0	Wayne	187	21.9
Kane	1,335	59.7	White	150	9.3
Kankakee	503	37.2	Whiteside	424	40.3
Kendall	118	36.4	Will	1,176	57.0
Knox	595	52.8	Williamson	543	30.9
LaSalle	1,059	49.6	Winnebago	1,195	58.2
Lake	1,214	58.9	Woodford	175	29.1

Source: Division of Vital Statistics and Records

TABLE 25. ESTIMATED EFFECTIVE BUYING INCOME PER CAPITA, ILLINOIS COUNTIES—1944

Counties	Buying Income	Counties	Buying Income
ILLINOIS		Lawrence	$ 903
Adams	$1,091	Lee	989
Alexander	823	Livingston	834
Bond	793	Logan	905
Boone	1,101	McDonough	923
Brown	664	McHenry	1,190
Bureau	961	McLean	1,370
Calhoun	503	Macon	1,179
Carroll	962	Macoupin	684
Cass	1,116	Madison	893
Champaign	1,249	Marion	1,287
Christian	899	Marshall	905
Clark	761	Mason	880
Clay	758	Massac	559
Clinton	646	Menard	880
Coles	1,148	Mercer	797
Cook	1,596	Monroe	906
Crawford	897	Montgomery	1,017
Cumberland	442	Morgan	1,023
DeKalb	1,166	Moultrie	655
DeWitt	1,011	Ogle	906
Douglas	898	Peoria	1,591
DuPage	975	Perry	824
Edgar	864	Piatt	758
Edwards	567	Pike	744
Effingham	1,034	Pope	436
Fayette	939	Pulaski	407
Ford	1,022	Putnam	522
Franklin	790	Randolph	656
Fulton	802	Richland	974
Gallatin	535	Rock Island	1,260
Greene	720	St. Clair	1,198
Grundy	811	Saline	862
Hamilton	383	Sangamon	1,285
Hancock	761	Schuyler	655
Hardin	334	Scott	732
Henderson	451	Shelby	629
Henry	958	Stark	859
Iroquois	853	Stephenson	1,141
Jackson	882	Tazewell	723
Jasper	538	Union	621
Jefferson	864	Vermilion	1,209
Jersey	678	Wabash	863
Jo Daviess	706	Warren	1,048
Johnson	504	Washington	596
Kane	1,214	Wayne	607
Kankakee	887	White	588
Kendall	606	Whiteside	976
Knox	1,215	Will	965
LaSalle	1,139	Williamson	758
Lake	1,156	Winnebago	1,379
		Woodford	973

Source: Sales Management, May 15, 1945.

TABLE 26. PER CAPITA ASSESSED VALUATION, ILLINOIS—1945

County	Amount	County	Amount
ILLINOIS	$2,416	Lawrence	$ 2,096
		Lee	3,886
Adams	2,447	Livingston	4,455*
Alexander	1,240	Logan	3,538
Bond	2,265	McDonough	3,131
Boone	2,741	McHenry	3,718
Brown	2,073	McLean	3,807
Bureau	4,292	Macon	2,929
Calhoun	1,196	Macoupin	2,060
Carroll	3,094	Madison	2,759
Cass	2,031	Marion	2,306
Champaign	3,463	Marshall	4,182
Christian	2,831	Mason	2,591*
Clark	2,305	Massac	1,027
Clay	2,150	Menard	3,981
Clinton	2,204	Mercer	2,913
Coles	2,541	Monroe	2,238
Cook	2,023	Montgomery	2,525
Crawford	2,104	Morgan	2,312
Cumberland	2,703	Moultrie	4,036
DeKalb	3,722	Ogle	3,904
DeWitt	4,055	Peoria	3,098
Douglas	4,343	Perry	1,360
DuPage	3,183	Piatt	1,335
Edgar	4,109	Pike	2,591
Edwards	2,153	Pope	1,097
Effingham	2,054	Pulaski	651
Fayette	3,452	Putnam	3,169
Ford	4,851	Randolph	1,610
Franklin	1,743	Richland	2,320
Fulton	2,376	Rock Island	2,109
Gallatin	2,019	St. Clair	2,539*
Greene	1,812	Saline	1,452
Grundy	3,763	Sangamon	2,531*
Hamilton	2,448	Schuyler	2,293
Hancock	2,863	Scott	2,082
Hardin	1,260	Shelby	2,741
Henderson	4,091	Stark	4,261
Henry	3,043	Stephenson	2,536
Iroquois	4,729	Tazewell	3,437
Jackson	1,655	Union	1,143
Jasper	2,463	Vermilion	2,529
Jefferson	2,299	Wabash	2,263
Jersey	1,859	Warren	3,571
JoDaviess	2,099	Washington	2,331
Johnson	1,320	Wayne	2,769
Kane	2,820	White	3,798
Kankakee	2,525	Whiteside	2,767
Kendall	4,225	Will	3,114
Knox	2,873	Williamson	1,002
LaSalle	3,054	Winnebago	2,852
Lake	3,624	Woodford	4,336

*1945 figures not available, 1944 figures used.
Source: Illinois Department of Revenue.

TABLE 27. NUMBER OF PERSONS DEPENDENT UPON THE MAJOR PUBLIC AID PROGRAMS IN ILLINOIS, BY COUNTY, AND RATE PER 1,000 POPULATION FOR THE MONTH OF JANUARY 1946

County	Persons	Rate Per 1,000 Population	County	Persons	Rate Per 1,000 Population
TOTAL	224,210	28.58	LaSalle	1,934	19.77
			Lawrence	995	47.21
Excluding Cook Co.	134,422	35.50	Lee	624	19.93
			Livingston	947	26.23
Adams	2,994	45.90	Logan	1,010	39.97
Alexander	1,779	69.78	McDonough	1,257	46.65
Bond	714	49.11	McHenry	517	13.86
Boone	327	21.51	McLean	2,152	29.11
Brown	457	56.75	Macon	3,210	37.90
Bureau	1,020	27.13	Macoupin	2,126	45.91
Calhoun	410	49.96	Madison	4,282	29.00
Carroll	330	18.35	Marion	2,061	42.95
Cass	1,084	66.00	Marshall	369	28.00
Champaign	2,302	32.62	Mason	756	49.23
Christian	1,889	48.98	Massac	902	60.39
Clark	893	47.39	Menard	448	42.01
Clay	819	43.23	Mercer	722	40.79
Clinton	667	29.11	Monroe	238	18.66
Coles	1,730	44.97	Montgomery	2,224	64.47
Cook	89,788	22.12	Morgan	1,496	45.11
Crawford	1,142	53.63	Moultrie	551	40.88
Cumberland	413	35.31	Ogle	681	22.80
DeKalb	733	21.32	Peoria	3,698	24.52
DeWitt	769	42.15	Perry	1,070	45.65
Douglas	803	45.65	Piatt	669	45.64
DuPage	1,015	09.81	Pike	1,421	56.08
Edgar	1,423	58.25	Pope	557	69.63
Edwards	330	36.77	Pulaski	1,560	98.27
Effingham	576	26.14	Putnam	195	36.87
Fayette	1,302	46.38	Randolph	1,007	33.41
Ford	301	20.06	Richland	571	33.32
Franklin	4,401	82.82	Rock Island	2,072	18.65
Fulton	1,710	38.32	St. Clair	7,180	43.02
Gallatin	1,174	102.86	Saline	3,355	88.14
Greene	1,383	68.15	Sangamon	5,245	44.48
Grundy	311	16.90	Schuyler	631	55.21
Hamilton	732	54.41	Scott	594	72.65
Hancock	1,336	50.80	Shelby	1,300	49.45
Hardin	336	43.30	Stark	293	32.99
Henderson	379	42.35	Stephenson	923	22.71
Henry	1,263	28.84	Tazewell	1,178	20.18
Iroquois	960	29.54	Union	999	51.65
Jackson	2,572	67.83	Vermilion	3,992	46.00
Jasper	447	33.23	Wabash	579	42.19
Jefferson	1,844	53.64	Warren	840	39.46
Jersey	679	49.79	Washington	390	24.68
JoDaviess	593	29.67	Wayne	920	41.64
Johnson	571	53.23	White	911	45.49
Kane	1,924	15.42	Whiteside	1,073	24.76
Kankakee	1,216	23.65	Will	1,716	15.85
Kendall	217	19.54	Williamson	4,016	78.10
Knox	1,872	35.83	Winnebago	1,845	15.23
Lake	1,491	12.31	Woodford	487	25.47

Source: Illinois Public Aid Commission. Division of Allocation and Research.

TABLE 28. PERCENTAGE OF HOMES WITH SPECIFIED EQUIPMENT OR CONVENIENCES, ILLINOIS COUNTIES—1940

State and Counties	% Homes With Radio[2]	% Homes With mech.[2] Refrigeration	% Homes With Central Heating[2]	% Homes With Electric Lighting[1]	% Homes With Running Water[1]
ILLINOIS	92.3	53.9	60.7	89.9	78.2
Adams	85.9	32.8	45.0	81.3	65.4
Alexander	59.5	17.5	15.6	54.7	43.7
Bond	74.0	23.7	21.8	59.6	25.0
Boone	94.6	48.6	63.7	85.9	65.7
Brown	75.2	14.6	14.6	44.2	16.3
Bureau	92.0	38.2	55.4	80.6	58.3
Calhoun	73.3	13.4	9.7	33.5	10.0
Carroll	90.0	34.6	51.8	72.4	56.2
Cass	83.9	22.8	34.6	68.2	44.2
Champaign	94.0	51.3	62.0	88.3	69.3
Christian	86.9	32.7	33.5	75.5	41.1
Clark	77.5	21.5	13.9	47.0	25.4
Clay	81.2	19.3	11.4	52.9	25.0
Clinton	79.3	22.9	20.5	76.5	32.4
Coles	88.6	32.5	36.2	77.1	53.3
Cook	96.3	65.5	73.4	99.1	97.8
Crawford	79.6	30.5	19.9	56.1	33.9
Cumberland	81.9	11.0	9.4	36.6	14.2
DeKalb	94.8	54.5	68.9	89.5	77.2
DeWitt	88.5	30.8	38.1	74.3	49.7
Douglas	87.4	33.2	26.8	69.8	38.8
DuPage	97.1	73.2	82.1	97.7	87.1
Edgar	86.3	28.4	29.6	67.7	35.0
Edwards	76.5	14.3	11.8	58.9	16.6
Effingham	82.1	28.8	24.7	59.4	31.5
Fayette	78.2	19.1	14.8	49.2	24.3
Ford	93.2	37.8	46.1	71.5	55.0
Franklin	79.5	21.8	14.1	74.6	37.1
Fulton	86.6	30.5	42.9	76.0	34.4
Gallatin	70.9	12.6	5.2	42.7	9.7
Greene	77.8	24.3	20.4	61.1	29.4
Grundy	93.1	48.1	37.2	84.8	56.9
Hamilton	69.7	11.3	5.7	34.5	12.0
Hancock	82.2	19.2	30.4	65.3	29.8
Hardin	67.4	11.3	6.4	41.5	12.6
Henderson	81.4	19.8	23.6	51.7	19.2
Henry	92.2	42.4	65.6	84.3	60.1
Iroquois	90.5	26.5	35.6	67.9	45.3
Jackson	78.3	27.1	25.9	63.9	38.5
Jasper	77.1	12.1	7.4	35.9	13.0
Jefferson	80.1	19.3	20.4	63.0	38.6
Jersey	73.3	21.9	23.8	54.7	27.3
JoDaviess	86.0	27.5	39.4	74.0	46.2
Johnson	66.4	9.4	4.2	26.4	6.7
Kane	96.2	59.3	85.4	97.0	87.9
Kankakee	93.8	47.8	62.9	89.3	72.2
Kendall	92.9	47.1	55.8	82.5	56.3
Knox	90.5	46.5	69.1	84.9	61.7
LaSalle	93.5	48.5	65.8	88.9	76.2
Lake	95.9	62.3	76.1	97.3	75.4
Lawrence	78.4	28.2	21.1	57.5	40.6
Lee	94.4	43.3	64.4	82.7	63.5
Livingston	92.1	40.6	52.8	79.9	57.9
Logan	90.4	35.4	42.6	77.8	52.3
McDonough	88.3	28.5	38.1	73.4	39.8
McHenry	94.9	51.5	62.2	90.0	64.7
McLean	92.9	48.6	61.9	87.1	65.8
Macon	92.9	53.2	66.8	90.0	72.2
Macoupin	83.1	22.9	26.9	74.8	33.1
Madison	88.9	49.6	52.6	89.0	74.2
Marion	80.7	23.9	21.8	74.1	41.4
Marshall	88.8	39.6	41.5	77.7	51.1
Mason	83.4	30.4	32.6	70.0	40.4
Massac	70.3	15.7	9.8	53.0	34.8
Menard	83.7	31.0	26.9	69.4	33.1
Mercer	88.0	37.6	40.7	67.3	38.2
Monroe	74.2	23.6	23.9	61.8	27.4
Montgomery	83.1	26.4	26.5	72.3	31.0
Morgan	85.7	32.1	46.7	75.8	45.4
Moultrie	83.0	25.5	21.8	65.0	28.5
Ogle	91.8	43.0	56.4	77.3	55.9
Peoria	93.2	67.3	73.1	95.1	80.6
Perry	77.7	24.6	20.2	63.8	32.5
Piatt	89.6	30.5	30.2	69.3	42.5
Pike	77.0	22.0	15.5	54.9	20.9
Pope	65.6	7.4	4.0	19.2	8.7
Pulaski	60.0	16.2	7.1	45.9	21.8
Putnam	84.2	27.1	26.8	71.2	44.3
Randolph	78.9	25.1	24.6	65.7	33.2

[1] Based on *all* dwelling units.
[2] Based on *occupied* units.

TABLE 28.—Concluded

State and Counties	% Homes With Radio[2]	% Homes With mech.[2] Refrigeration	% Homes With Central Heating[2]	% Homes With Electric Lighting[1]	% Homes With Running Water[1]
Richland	81.1	26.7	16.6	60.0	35.5
Rock Island	94.8	68.8	74.2	94.9	82.3
St. Clair	88.0	49.4	48.4	90.0	75.9
Saline	80.0	21.9	14.6	69.2	33.5
Sangamon	91.5	56.1	64.8	93.1	71.2
Schuyler	80.3	15.6	18.1	40.3	18.7
Scott	77.3	25.7	21.7	56.2	22.5
Shelby	83.3	18.7	16.6	51.1	23.9
Stark	87.7	33.1	47.4	71.5	41.6
Stephenson	92.8	47.8	67.8	86.1	68.0
Tazewell	92.4	57.8	54.4	89.8	66.4
Union	73.7	19.0	20.1	46.8	28.8
Vermilion	88.8	29.5	44.4	83.5	61.1
Wabash	83.9	24.7	24.6	71.7	45.0
Warren	89.7	37.3	51.8	75.4	49.6
Washington	71.7	16.6	15.6	53.5	18.7
Wayne	73.9	11.9	8.9	44.2	16.0
White	77.7	18.6	13.3	56.6	22.4
Whiteside	92.3	36.2	55.3	84.3	57.8
Will	93.9	46.2	66.7	93.8	68.4
Williamson	81.1	19.1	14.3	69.4	36.7
Winnebago	95.3	56.9	78.6	96.1	82.4
Woodford	89.9	49.4	48.2	83.5	49.7

[1] Based on *all* dwelling units.
[2] Based on *occupied* units.
Source: 16th Census of the United States. Housing Vol. 2, Tables 22, 23, and 28.

TABLE 29. PERCENTAGE OF HOMES WITH SPECIFIED CHARACTERISTICS, AND PER CENT OF PERSONS 25 YEARS OF AGE AND OVER HAVING COMPLETED MORE THAN 6 YEARS IN SCHOOL. ILLINOIS COUNTIES—1940

State and Counties	% Homes Occupied By Owners[2]	% Homes Not Needing Major Repairs[1]	% Homes With Less Than 1.01 Persons Per Room[2]	% Persons 25 Over Having Completed More than 6 Years of School
ILLINOIS	78.2	79.0	84.8	81.3
Adams	70.6	85.8	86.3	80.5
Alexander	43.7	37 8	69.4	61.2
Bond	25.0	61.5	85.8	79.0
Boone	65.7	76.6	95.7	89.5
Brown	16.3	87.5	87.6	84.1
Bureau	58.3	71.9	92.8	83.0
Calhoun	10.0	74.7	70.6	67.3
Carroll	56.2	75.0	93.7	87.5
Cass	44.2	81.5	84.8	84.8
Champaign	69.3	71.2	88.7	89.1
Christian	41.1	53.3	85.8	80.1
Clark	25.4	62.6	85.5	85.8
Clay	25.0	63.4	78.0	82.7
Clinton	32.4	65.0	77.7	68.5
Coles	53.3	60.4	85.2	84.8
Cook	97.8	85 4	84.1	80.6
Crawford	33.9	72.7	85.0	87.1
Cumberland	14.2	64.7	82.3	86.2
DeKalb	77.2	75.5	93.7	89.6
DeWitt	49.7	65.8	87.9	88.5
Douglas	38.8	60.4	87.4	85.4
DuPage	87.1	85.9	90.5	90.8
Edgar	35.0	76.9	86.7	85.6
Edwards	16.6	65.3	83.7	84.8
Effingham	31.5	64.5	80.9	81.1
Fayette	24.3	58.6	76.3	78.7
Ford	55.0	73.7	93.0	88.4
Franklin	37.1	49.2	79.5	68.9
Fulton	34.4	82.7	88.1	84.7
Gallatin	9.7	53.5	67.5	66.2
Greene	29.4	72.6	84.0	80.6
Grundy	56.9	84.2	91.0	80.6
Hamilton	12.0	61.3	73.2	76.3
Hancock	29.8	71.4	91.2	87.6
Hardin	12.6	63.4	59.1	62.6
Henderson	19.2	80.8	86.4	86.3
Henry	60.1	89.0	93.1	84.9
Iroquois	45.3	82.8	92.1	84.7

[1] Based on *all* dwelling units.
[2] Based on *occupied* units.

TABLE 29—Concluded

State and Counties	% Homes Occupied By Owners[2]	% Homes Not Needing Major Repairs[1]	% Homes With Less Than 1.01 Persons Per Room[2]	% Persons 25 Over Having Completed More Than 6 Years of School
Jackson	38.5	52.5	79.1	75.7
Jasper	13.0	64.3	84.2	86.1
Jefferson	38.6	59.7	78.2	78.8
Jersey	27.3	72.0	79.4	78.4
JoDaviess	46.2	70.5	92.6	86.8
Johnson	6.7	49.6	70.9	75.6
Kane	87.9	83.4	92.8	87.1
Kankakee	72.2	83.1	88.4	78.3
Kendall	56.3	63.3	94.0	90.6
Knox	61.7	86.8	90.9	90.4
LaSalle	76.2	77.4	88.4	81.1
Lake	75.4	83.9	88.7	84.4
Lawrence	40.6	59.6	80.7	81.4
Lee	63.5	71.6	92.3	83.2
Livingston	57.9	76.7	92.4	85.2
Logan	52.3	83.0	89.5	75.4
McDonough	39.8	68.1	90.2	90.3
McHenry	64.7	81.9	94.2	88.3
McLean	65.8	62.5	90.0	88.5
Macon	72.2	66.2	86.2	84.7
Macoupin	33.1	64.1	88.0	74.5
Madison	74.2	68.0	79.3	76.0
Marion	71.4	56.7	68.9	84.0
Marshall	51.1	73.2	91.1	84.1
Mason	40.4	73.3	87.2	82.6
Massac	34.8	55.2	72 2	72.0
Menard	33.1	82.8	85.8	82.9
Mercer	38.2	85.3	90.1	89.2
Monroe	27.4	55.9	80.2	69.1
Montgomery	31.0	55.9	88.2	78.4
Morgan	45.4	73.7	85.4	84.1
Moultrie	28.5	52.8	85.9	83.6
Ogle	55.9	74.3	93.8	90.6
Peoria	80.6	80.4	85.0	85.3
Perry	32.5	57.9	79.8	70.8
Piatt	42.5	61.7	89.7	85.5
Pike	20.9	70.4	85.5	83.7
Pope	8.7	57.9	72.2	72.0
Pulaski	21.8	39.4	67.2	62.0
Putnam	44.3	63.7	90.5	70.9
Randolph	33.2	52.9	81.1	71.2
Richland	35.5	69.7	81.6	87.1
Rock Island	82.2	84.9	85.4	86.3
St. Clair	75.9	77.0	78.3	73 5
Saline	33.5	59.4	73.9	69.3
Sangamon	71.2	68.0	84.5	83.2
Schuyler	18.7	80.9	86.8	86.8
Scott	22.5	71.9	86.7	85.3
Shelby	23.9	56.0	87.2	83.2
Stark	41.6	71.4	92.0	89.6
Stephenson	68.0	79.0	94.0	87.5
Tazewell	67.4	78.2	82.3	83.7
Union	28.8	49.6	74.2	76.2
Vermilion	40.2	83.1	86.2	79.0
Wabash	45.0	70.1	80.4	82.6
Warren	49.6	82.3	91.4	92.2
Washington	18.7	56.7	83.9	69.8
Wayne	16.0	57.3	76.3	79.3
White	22.4	56.5	74.0	78.6
Whiteside	57.8	76.4	89.5	87.3
Will	68.4	78.9	88.1	79.6
Williamson	36.7	42.4	78.9	70.3
Winnebago	82.4	79.3	90.3	84.4
Woodford	49.7	59.4	91.9	84.3

[1] Based on *all* dwelling units.
[2] Based on *occupied* units.
Source: 16th Census of the United States. Housing Vol. 2. Pop. Second Series.

TABLE 30. AVERAGE VAULE OF HOMES, ILLINOIS COUNTIES—1940

State and Counties	Average Value	State and Counties	Average Value
ILLINOIS	$3,102	Lawrence	$1,324
		Lee	2,356
Adams	2,032	Livingston	1,994
Alexander	1,251	Logan	1,758
Bond	1,456	McDonough	1,742
Boone	2,090	McHenry	2,984
Brown	1,060	McLean	2,571
Bureau	1,955	Macon	2,692
Calhoun	989	Macoupin	1,145
Carroll	1,885	Madison	2,341
Cass	1,360	Marion	1,822
Champaign	3,269	Marshall	1,908
Christian	1,602	Mason	1,307
Clark	1,296	Massac	1,056
Clay	1,355	Menard	1,341
Clinton	1,490	Mercer	1,522
Coles	2,105	Monroe	1,653
Cook	3,803	Montgomery	1,310
Crawford	1,444	Morgan	2,023
Cumberland	1,085	Moultrie	1,455
DeKalb	2,429	Ogle	2,358
DeWitt	1,663	Peoria	3,543
Douglas	1,615	Perry	1,418
DuPage	4,958	Piatt	1,685
Edgar	1,727	Pike	1,150
Edwards	1,139	Pope	666
Effingham	1,707	Pulaski	856
Fayette	1,302	Putnam	1,079
Ford	1,912	Randolph	1,512
Franklin	1,019	Richland	1,509
Fulton	1,566	Rock Island	3,117
Gallatin	754	St. Clair	2,209
Greene	1,164	Saline	1,227
Grundy	2,210	Sangamon	2,843
Hamilton	1,006	Schuyler	1,228
Hancock	1,301	Scott	1,166
Hardin	743	Shelby	1,282
Henderson	1,150	Stark	1,646
Henry	2,003	Stephenson	2,751
Iroquois	1,748	Tazewell	2,593
Jackson	1,660	Union	1,384
Jasper	1,087	Vermilion	1,958
Jefferson	1,656	Wabash	1,617
Jersey	1,383	Warren	1,843
JoDaviess	1,509	Washington	1,546
Johnson	747	Wayne	1,128
Kane	3,470	White	1,198
Kankakee	2,701	Whiteside	2,277
Kendall	2,307	Will	2,948
Knox	2,271	Williamson	970
LaSalle	2,656	Winnebago	3,231
Lake	4,950	Woodford	2,198

Source: 16th Census of the United States Housing: Volume 11

TABLE 31. AVERAGE OF TEN STANDARD OF LIVING MEASURES

County	Average Measure	County	Average Measure
ILLINOIS	100	Lawrence	77
		Lee	96
Adams	93	Livingston	94
Alexander	62	Logan	89
Bond	74	McDonough	87
Boone	100	McHenry	102
Brown	75	McLean	97
Bureau	93	Macon	98
Calhoun	63	Macoupin	78
Carroll	93	Madison	96
Cass	84	Marion	82
Champaign	100	Marshall	90
Christian	82	Mason	83
Clark	74	Massac	67
Clay	73	Menard	83
Clinton	74	Mercer	89
Coles	87	Monroe	71
Cook	109	Montgomery	78
Crawford	80	Morgan	87
Cumberland	70	Moultrie	77
DeKalb	103	Ogle	96
DeWitt	87	Peoria	105
Douglas	83	Perry	73
DuPage	114	Piatt	85
Edgar	84	Pike	75
Edwards	72	Pope	57
Effingham	76	Pulaski	58
Fayette	70	Putnam	80
Ford	93	Randolph	73
Franklin	72	Richland	79
Fulton	87	Rock Island	106
Gallatin	58	St. Clair	92
Greene	77	Saline	71
Grundy	94	Sangamon	98
Hamilton	63	Schuyler	76
Hancock	81	Scott	77
Hardin	57	Shelby	74
Henderson	78	Stark	88
Henry	98	Stephenson	101
Iroquois	89	Tazewell	97
Jackson	75	Union	68
Jasper	70	Vermilion	88
Jefferson	72	Wabash	82
Jersey	74	Warren	93
JoDaviess	87	Washington	68
Johnson	57	Wayne	66
Kane	109	White	69
Kankakee	99	Whiteside	95
Kendall	95	Will	99
Knox	99	Williamson	70
LaSalle	99	Winnebago	105
Lake	109	Woodford	91

Source: The average measure is simply the unweighted average of the 10 standard of living measures shown in Tables 26 and 27. Before calculating the average, each measure was expressed in *standard deviation* units. This procedure prevents one or few measures from having undue weight in the average measure.

TABLE 32. PERCENTAGE OF FARMS HAVING AUTOMOBILES AND TELEPHONES AND LOCATED ON DIRT ROADS, ILLINOIS—1940

State and Counties	% Farms Having Automobiles	% Farms Having Telephones	% Farms on Dirt Roads	State and Counties	% Farms Having Automobiles	% Farms Having Telephones	% Farms on Dirt Roads
ILLINOIS	82.5	49.5	29.1	Lawrence	79.2	39.9	9.6
				Lee	93.5	56.2	3.7
Adams	85.0	62.8	13.4	Livingston	94.6	68.7	1.2
Alexander	46.3	10.4	24.3	Logan	93.5	57.4	6.2
Bond	76.8	41.8	21.5	McDonough	88.9	78.4	10.0
Boone	92.2	47.8	11.5	McHenry	90.4	52.0	3.2
Brown	80.0	69.4	56.2	McLean	92.3	56.1	0.8
Bureau	93.9	56.7	3.5	Macon	89.0	42.5	22.6
Calhoun	71.6	20.8	58.0	Macoupin	78.4	36.6	70.0
Carroll	91.6	70.2	9.1	Madison	83.2	46.6	69.0
Cass	85.3	42.8	59.8	Marion	69.6	46.1	60.8
Champaign	93.1	53.7	31.7	Marshall	92.6	51.8	2.2
Christian	86.0	43.5	77.1	Mason	88.3	63.3	49.9
Clark	70.5	45.3	17.3	Massac	65.0	22.1	19.5
Clay	75.8	50.9	68.4	Menard	87.8	45.4	53.8
Clinton	88.3	35.7	58.9	Mercer	87.8	77.7	22.0
Coles	87.1	48.0	46.7	Monroe	80.5	69.3	46.3
Cook	82.7	46.4	5.2	Montgomery	81.3	36.8	64.0
Crawford	81.7	64.3	8.8	Morgan	83.3	47.1	49.5
Cumberland	78.0	37.5	20.7	Moultrie	81.5	47.7	83.9
DeKalb	96.0	62.7	14.1	Ogle	91.4	57.7	1.6
DeWitt	91.9	28.9	2.5	Peoria	86.9	58.4	4.9
Douglas	83.5	43.4	76.7	Perry	75.5	45.8	50.5
DuPage	84.6	48.9	2.6	Piatt	91.2	44 9	65.1
Edgar	85.8	46.3	3.8	Pike	76.1	39.4	21.1
Edwards	81.3	69.5	14.2	Pope	45.9	20.7	59.4
Effingham	79.8	58.2	48.1	Pulaski	47.1	13.6	30.8
Fayette	76.5	40.3	38.0	Putnam	91.5	65.1	2.8
Ford	95.1	60.8	32.9	Randolph	78.3	59.7	64.7
Franklin	61.7	14.7	29.3	Richland	78.1	63.6	53.0
Fulton	84.3	63.1	30.4	Rock Island	87.2	68.5	23.0
Gallatin	62.0	27.4	34.7	St. Clair	83.1	56.9	61.2
Greene	77.4	33.7	36.2	Saline	56.8	25.3	25.1
Grundy	91.9	49.7	4.5	Sangamon	81.8	37.9	74.0
Hamilton	53.7	29.9	62.0	Schuyler	78.9	49.8	39.1
Hancock	85.1	53.2	6.6	Scott	84.3	32.3	35.8
Hardin	40.4	2.4	33.7	Shelby	81.7	58.2	43.2
Henderson	86.8	59.3	24.2	Stark	93.4	69.1	2.8
Henry	94.8	78.9	49.8	Stephenson	92.2	70.4	2.7
Iroquois	94.8	57.5	22.6	Tazewell	91.5	63.1	5.2
Jackson	65.7	15.1	46.2	Union	61.7	20.7	37.2
Jasper	76.3	30.3	49.3	Vermilion	85.6	41.3	4.5
Jefferson	69.0	29.0	63.3	Wabash	83.7	60.8	7.6
Jersey	75.1	33.9	35.7	Warren	91.7	70.1	2.6
JoDaviess	90.4	65.6	16.1	Washington	84.2	66.3	73.5
Johnson	43.9	13.1	56.7	Wayne	71.6	36.0	43.5
Kane	89.6	50.5	4.3	White	71.3	48.8	26.6
Kankakee	92.0	42.5	9.0	Whiteside	93.5	66.3	14.8
Kendall	95.0	61.1	1.8	Will	89.0	41.7	3.6
Knox	88.9	67.1	8.1	Williamson	56.3	16.0	37.6
LaSalle	93.5	58.1	1.6	Winnebago	92.1	58.7	12.9
Lake	88.1	53.7	2.2	Woodford	92.3	68.0	2.9

Source: 16th Census of the United States, 1940. Agriculture: Second Series

TABLE 32A. PERCENTAGE OF PUPILS WHO WERE ENROLLED IN 1st GRADE 12 YEARS AGO—GRADUATING FROM HIGH SCHOOL, ILLINOIS—1939

Counties	Percent	Counties	Percent
Adams	45	Lee	41
Alexander	19	Livingston	40
Bond	26	Logan	48
Boone	40	McDonough	39
Brown	31	McHenry	51
Bureau	44	McLean	40
Calhoun	4	Macon	33
Carroll	45	Macoupin	40
Cass	40	Madison	28
Champaign	39	Marion	30
Christian	34	Marshall	47
Clark	36	Mason	37
Clay	28	Massac	23
Clinton	32	Menard	34
Coles	31	Mercer	38
Cook	42	Monroe	21
Crawford	32	Montgomery	42
Cumberland	16	Morgan	36
DeKalb	62	Moultrie	30
DeWitt	30	Ogle	39
Douglas	38	Peoria	39
DuPage	61	Perry	26
Edgar	30	Piatt	38
Edwards	40	Pike	39
Effingham	23	Pope	4
Fayette	18	Pulaski	12
Ford	46	Putnam	39
Franklin	21	Randolph	22
Fulton	39	Richland	29
Gallatin	18	Rock Island	44
Greene	28	St. Clair	25
Grundy	46	Saline	22
Hamilton	10	Sangamon	41
Hancock	44	Schuyler	12
Hardin	11	Scott	38
Henderson	24	Shelby	27
Henry	46	Stark	42
Iroquois	35	Stephenson	34
Jackson	27	Tazewell	43
Jasper	20	Union	24
Jefferson	18	Vermilion	38
Jersey	31	Wabash	29
JoDaviess	43	Warren	35
Johnson	13	Washington	15
Kane	56	Wayne	13
Kankakee	37	White	22
Kendall	49	Whiteside	35
Knox	46	Will	34
Lake	50	Williamson	22
LaSalle	43	Winnebago	36
Lawrence	29	Woodford	52

Source: Illinois School Statistics—1939

TABLE 33. PHYSICIANS BY ACTIVITY AND AGE, AND POPULATION PER PHYSICIAN, ILLINOIS—1943

State and Counties	Number of Physicians					Population Per Active Physician
	Not in Practice	Active Physicians				
		Total	Under 45	45-65	65 Up	
ILLINOIS	2,192	10,530	4,126	4,566	1,838	721
Adams	15	61	17	22	22	961
Alexander	4	18	7	8	3	1,165
Bond	1	8	1	3	4	1,638
Boone	2	16	9	3	4	920
Brown		6	3	2	1	1,088
Bureau	1	32	12	12	8	1,056
Calhoun		2	1	1		3,332
Carroll		16	6	3	7	1,089
Cass	2	18	7	4	7	784
Champaign	17	120	50	48	22	574
Christian	1	31	7	18	6	1,093
Clark	4	14	3	5	6	1,131
Clay	3	15	2	9	4	1,050
Clinton	1	15	3	8	4	1,306
Coles	6	45	11	19	15	764
Cook	1,556	6,689	2,753	3,085	851	595
Crawford	2	26	8	9	9	722
Cumberland	1	5	1	2	2	1,909
DeKalb	4	40	18	13	9	835
DeWitt	1	18	7	6	5	889
Douglas	2	19	7	5	7	790
DuPage	22	113	49	45	19	994
Edgar	11	17	5	6	6	1,291
Edwards		6	2	1	3	1,323
Effingham	2	20	6	8	6	913
Fayette	5	17	2	8	7	1,406
Ford	3	15	6	5	4	899
Franklin	6	40	12	17	11	1,113
Fulton	11	38	12	12	14	1,079
Gallatin	1	7	3	1	3	1,319
Greene	4	18	7	7	4	990
Grundy	3	19	6	8	5	973
Hamilton	2	4	1		3	3,122
Hancock	3	26	8	3	15	904
Hardin		6	1	3	2	1,301
Henderson		4	1	2	1	1,929
Henry	7	40	18	11	11	988
Iroquois	7	33	13	9	11	865
Jackson	7	41	18	14	9	813
Jasper	3	7	1	2	4	1,581
Jefferson	3	23	5	12	6	1,415
Jersey	3	9	2	5	2	1,406
Jo Daviess	4	14	5	7	2	1,414
Johnson	2	6	2	3	1	1,395
Kane	26	163	68	60	35	798
Kankakee	8	77	32	33	12	797
Kendall	2	9	2	4	3	1,114
Knox	15	48	15	20	13	994
Lake	31	162	87	54	21	747
LaSalle	15	93	29	40	24	1,018
Lawrence	6	19	6	7	6	1,015
Lee	1	43	15	15	13	757
Livingston	6	45	14	19	12	790
Logan	2	36	14	13	9	743
McDonough	2	40	11	13	16	635
McHenry	6	33	12	14	7	1,136
McLean	16	96	39	30	27	686
Macon	16	103	30	45	28	815
Macoupin	9	32	11	14	7	1,272
Madison	12	127	46	52	29	1,286
Marion	5	41	16	14	11	981
Marshall	3	13	4	4	5	876
Mason	2	17	6	7	4	813
Massac		9	4	3	2	1,420
Menard		9		3	6	971
Mercer	6	12	5	3	4	1,333
Monroe	3	9	2	6	1	1,315
Montgomery	5	27	7	12	8	1,066
Morgan	7	47	9	16	22	672
Moultrie	2	9	4	3	2	1,274
Ogle	4	26	8	9	9	1,081
Peoria	43	189	66	77	46	761
Perry	1	18	9	6	3	1,141
Piatt	2	20	5	10	5	627
Pike	3	16	4	3	9	1,324
Pope	1	3	1	2		1,959
Pulaski	1	7	1	4	2	1,872
Putnam		3	2		1	1,501
Randolph	2	27	7	8	12	1,097

TABLE 33.—Concluded

State and Counties	Number of Physicians					Population Per Active Physician
	Not in Practice	Active Physicians				
		Total	Under 45	45-65	65 Up	
Richland	6	17	10	2	5	865
Rock Island	23	110	45	37	28	1,058
St. Clair	28	152	51	69	32	1,139
Saline	10	33	10	15	8	945
Sangamon	21	144	47	67	30	795
Schuyler	1	10	2	4	4	935
Scott	1	5	1	2	2	1,324
Shelby	5	19	2	8	9	1,186
Stark	4	10	3	3	4	776
Stephenson	4	44	15	16	13	881
Tazewell	4	46	23	13	10	1,240
Union	1	20	4	10	6	948
Vermilion	14	107	35	45	27	714
Wabash	5	12	4	4	4	1,088
Warren	3	23	4	10	9	831
Washington	2	12	3	4	5	1,147
Wayne	5	14	4	2	8	1,332
White	4	13	5	6	2	1,520
Whiteside	6	37	17	8	12	1,115
Will	19	119	54	45	20	992
Williamson	9	32	6	15	11	1,413
Winnebago	19	171	68	77	26	734
Woodford	2	15	4	7	4	1,160

Source: American Medical Association

TABLE 34. DISTRIBUTION AND PERCENTAGE OF PHYSICIANS IN ILLINOIS BY SIZE OF COMMUNITY AND DEGREE OF SPECIALIZATION, 1943

Illinois	Total	General Practice	Part Time Specialist	Full Time Specialist
Distribution				
Grand Total	12,722	6,545	3,831	2,346
Not in Active Practice	1,721	1,544	135	42
In Active Practice	11,001	5,001	3,696	2,304
Size of Community				
1,000,000 or more	6,103	2,587	2,045	1,471
100,000-250,000	183	60	58	65
50,000—100,000	862	288	306	268
25,000— 50,000	790	311	303	176
10,000— 25,000	771	301	302	168
5,000— 10,000	617	295	239	83
2,500— 5,000	496	297	165	34
Under 2,500	1,179	862	278	39
Percentage	**Percent**	**Percent**	**Percent**	**Percent**
Grand Total	100	51.4	30.1	18.4
Not in Active Practice	100	89.7	7.8	2.4
In Active Practice	100	45.5	33.6	20.9
Size of Community				
1,000,000 or more	100	42.4	33.5	24.1
100,000—250,000	100	32.8	31.7	35.5
50,000—100,000	100	33.4	35.5	31.1
25,000— 50,000	100	39.4	38.4	22.3
10,000— 25,000	100	39.0	39.2	21.8
5,000— 10,000	100	47.8	38.7	13.5
2,500— 5,000	100	59.9	33.3	6.9
Under 2,500	100	73.1	23.6	3.3

Source: American Medical Association

TABLE 35. DISTRIBUTION OF PHYSICIANS AND POPULATION PER PHYSICIAN BY SPECIALTY—ILLINOIS, 1943—Population 7,593,255

Specialty	Number of Physicians			Population Per Physician		
	Total	Full Time	Part Time	Total	Full Time	Part Time
Total	11,001	7,305	3,696	683	1,029	2,034
General Practice	5,001	5,001	----------	1,503	1,503	----------
Neurology and Psychiatry	242	110	132	31,066	68,345	56,954
Internal Medicine	801	369	432	9,386	20,374	17,403
Tuberculosis	129	32	97	58,278	234,935	77,504
Anesthesia	45	3	42	167,065	2,505,975	178,998
Radiology	173	114	59	43,456	65,947	127,422
Pathology	83	40	43	90,577	187,948	174,835
Clinical Pathology	23	10	13	326,866	751,792	578,302
Bacteriology	16	2	14	469,870	3,758,962	536,995
Public Health	140	62	78	53,699	121,257	96,384
Proctology	75	19	56	100,239	395,680	134,249
Urology	200	100	100	37,590	75,179	75,179
Dermatology	122	56	66	61,622	134,249	113,908
Ophthalmology	172	106	66	43,709	70,924	113,908
Otology, Laryngology and Rhinology	113	72	41	66,530	104,416	183,364
Ophthalmology, Otology, Laryngology and Rhinology	422	313	109	17,815	24,019	68,972
Pediatrics	370	182	188	20,319	41,307	39,989
Neurology	13	4	9	578,302	1,879,481	835,325
Psychiatry	111	41	70	67,729	183,364	107,399
General Surgery	1,337	344	993	5,623	21,854	7,571
Brain and Nerve Surgery	19	13	6	395,680	578,302	1,252,987
Plastic Surgery	30	11	19	250,597	683,448	395,680
Industrial Practice	133	4	129	56,526	1,879,481	58,278
Industrial Surgery	335	49	286	22,442	153,427	26,286
Industrial Preventive	7	2	5	1,073,989	3,758,962	1,503,585
Industrial Consultation	3	----------	3	2,505,975	----------	2,505,975
Industrial Toxicology	2	1	1	3,758,962	7,517,924	7,517,924
Industrial Teaching	1	----------	1	7,517,924	----------	7,517,924
Obstetrics	180	12	168	41,766	626,494	44,750
Gynecology	94	11	83	79,978	683,448	90,577
Obstetrics and Gynecology	491	171	320	15,311	43,964	23,494
Orthopedic Surgery	118	51	67	63,711	147,410	112,208

Source: American Medical Association

TABLE 36. NUMBER OF DENTISTS, AND POPULATION PER DENTIST BY COUNTY, ILLINOIS—1942

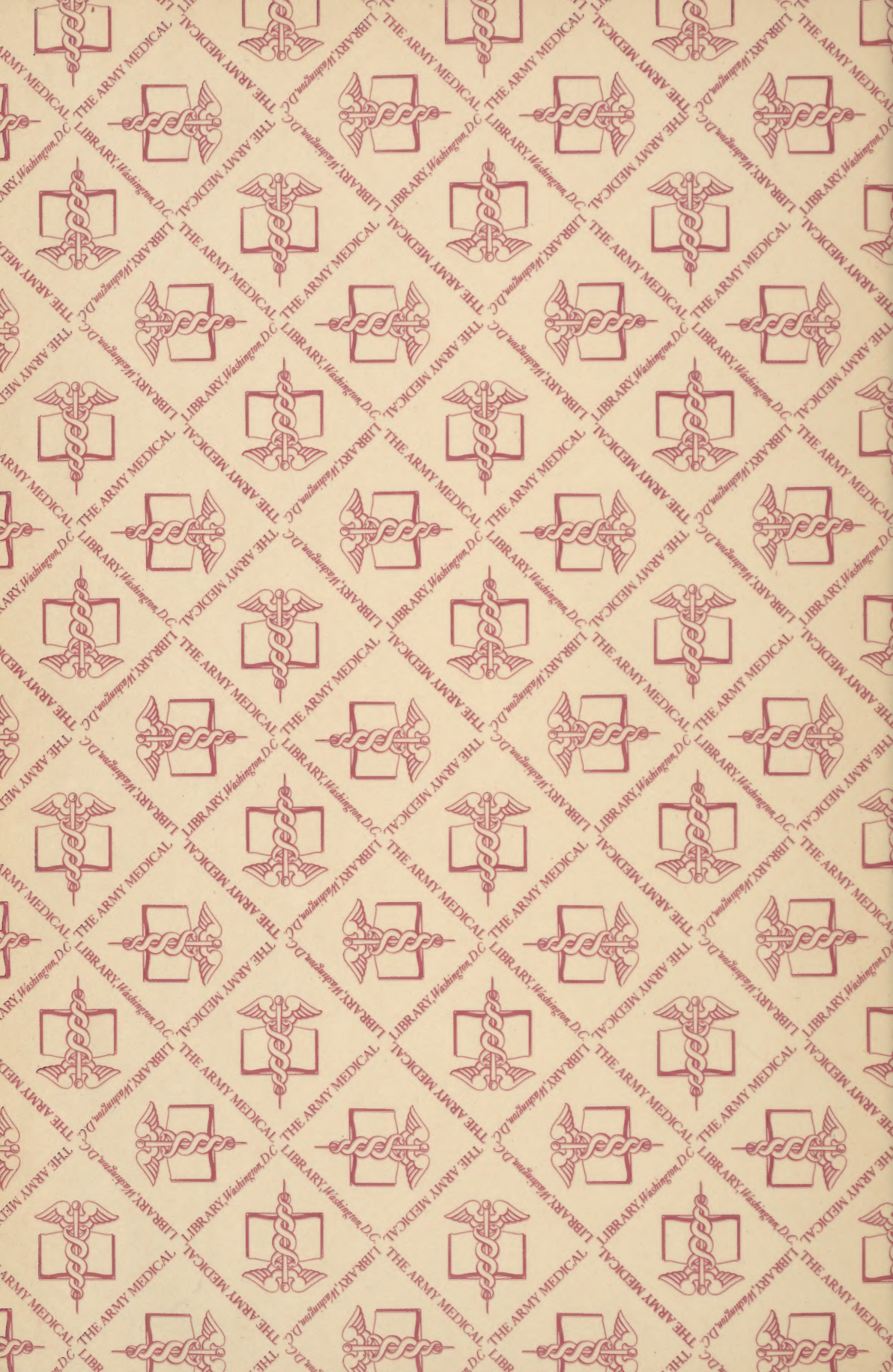
County	Population (1940)	1942 Dentists	Total Population Per Dentist	County	Population (1940)	1942 Dentists	Total Population Per Dentist
ILLINOIS	7,897,241	6,856	1,152	Lawrence	21,075	9	2,342
				Lee	34,604	21	1,648
Adams	65,229	32	2,038	Livingston	38,838	20	1,942
Alexander	25,496	7	3,642	Logan	29,438	17	1,732
Bond	14,540	6	2,423	McDonough	26,944	14	1,925
Boone	15,202	8	1,900	McHenry	37,311	27	1,382
Brown	8,053	4	2,013	McLean	73,930	49	1,509
Bureau	37,600	30	1,253	Macon	84,693	49	1,728
Calhoun	8,207	2	4,103	Macoupin	46,304	21	2,205
Carroll	17,937	17	1,058	Madison	149,349	81	1,844
Cass	16,425	8	2,053	Marion	47,989	17	2,823
Champaign	70,578	52	1,357	Marshall	13,179	8	1,647
Christian	38,564	15	2,571	Mason	15,358	8	1,920
Clark	18,842	8	2,355	Massac	14,937	6	2,489
Clay	18,947	8	2,368	Menard	10,663	5	2,133
Clinton	22,912	7	3,273	Mercer	17,701	6	2,950
Coles	38,470	19	2,025	Monroe	12,754	4	3,188
Cook	4,063,342	4,754	855	Montgomery	34,499	12	2,875
Crawford	21,294	19	1,121	Morgan	36,378	24	1,516
Cumberland	11,698	3	3,899	Moultrie	13,477	5	2,695
DeKalb	34,388	22	1,563	Ogle	29,869	22	1,358
DeWitt	18,244	12	1,520	Peoria	153,374	106	1,447
Douglas	17,590	12	1,466	Perry	23,438	10	2,344
DuPage	103,480	82	1,262	Piatt	14,659	6	2,443
Edgar	24,430	13	1,879	Pike	25,340	9	2,815
Edwards	8,974	2	4,487	Pope	7,999	2	3,999
Effingham	22,034	11	2,003	Pulaski	15,875	3	5,292
Fayette	29,159	8	3,645	Putnam	5,289	2	2,645
Ford	15,007	10	1,501	Randolph	33,608	18	1,867
Franklin	53,137	23	2,310	Richland	17,137	8	2,142
Fulton	44,627	22	2,028	Rock Island	113,323	68	1,667
Gallatin	11,414	2	5,707	St. Clair	166,899	99	1,686
Greene	20,292	10	2,029	Saline	38,066	18	2,115
Grundy	18,398	9	2,044	Sangamon	117,912	75	1,572
Hamilton	13,454	6	2,242	Schuyler	11,430	4	2,858
Hancock	26,297	11	2,391	Scott	8,176	4	2,044
Hardin	7,759	3	2,586	Shelby	26,290	10	2,629
Henderson	8,949	2	4,474	Stark	8,881	4	2,220
Henry	43,798	22	1,991	Stephenson	40,646	29	1,402
Iroquois	32,496	17	1,911	Tazewell	58,362	21	2,779
Jackson	37,920	15	2,528	Union	21,528	11	1,957
Jasper	13,431	4	3,358	Vermilion	86,791	40	2,170
Jefferson	34,375	11	3,125	Wabash	13,724	7	1,961
Jersey	13,636	4	3,409	Warren	21,236	13	1,637
JoDaviess	19,989	12	1,666	Washington	15,801	11	1,436
Johnson	10,727	2	5,363	Wayne	22,092	5	4,418
Kane	130,206	97	1,342	White	20,027	6	3,338
Kankakee	60,877	29	2,099	Whiteside	43,338	24	1,806
Kendall	11,105	7	1,586	Will	114,210	68	1,680
Knox	52,250	24	2,177	Williamson	51,424	16	3,214
Lake	121,094	85	1,425	Winnebago	121,178	77	1,574
LaSalle	97,801	62	1,577	Woodford	19,124	7	2,732

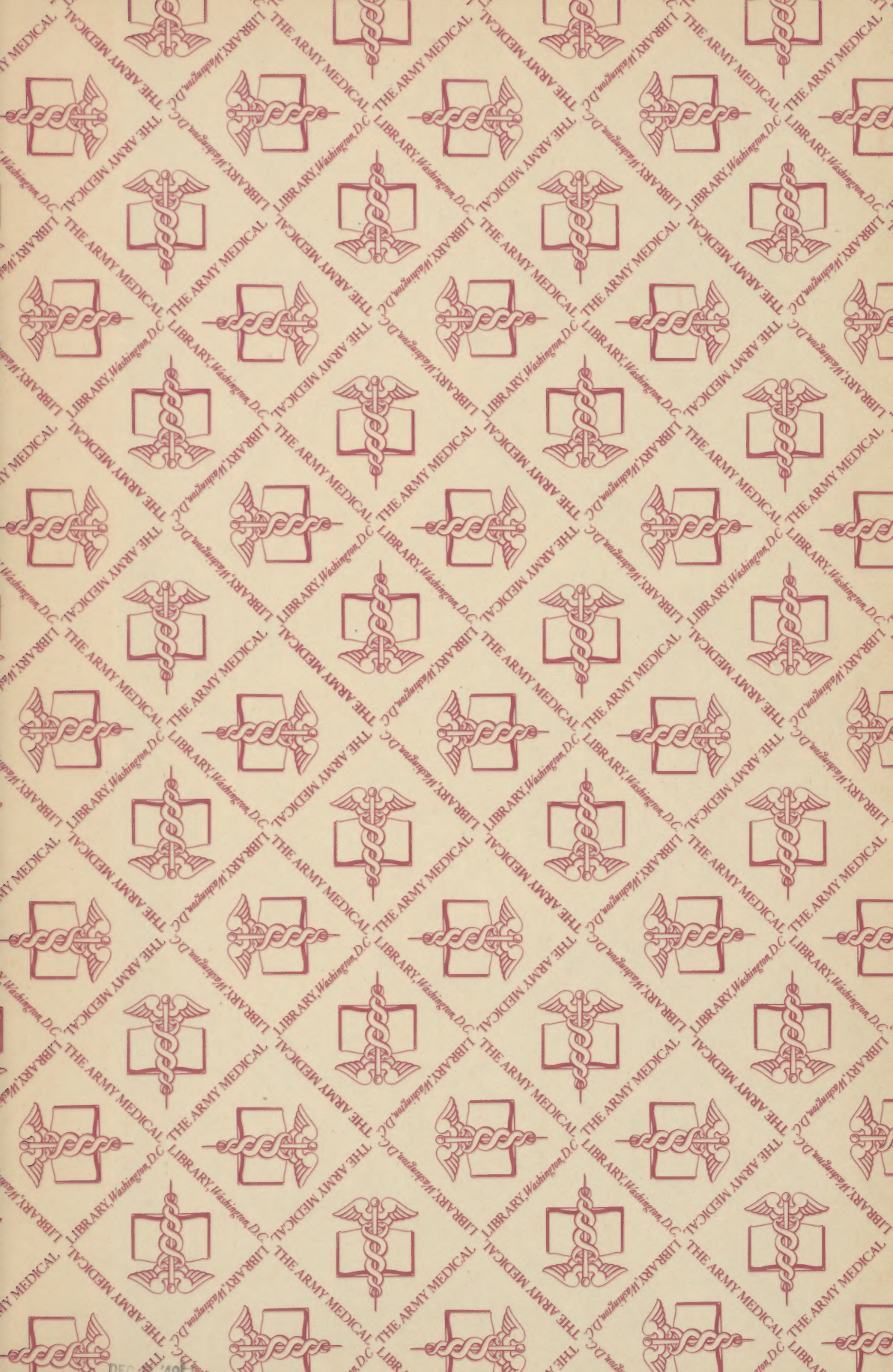
Source: Prepared from data made available by the Illinois Dental Society.

TABLE 36A. PUBLIC HEALTH NURSES IN ILLINOIS AS OF JUNE 4, 1946

State and Counties	Population* per County	Number of Nurses
ILLINOIS		
Adams	59,502	11
Alexander	21,285	6
Bond	13,306	1
Boone	14,939	2
Brown	6,624	
Bureau	34,306	3
Calhoun	6,764	
Carroll	17,680	3
Cass	14,327	
Champaign	69,943	6
Christian	34,409	2
Clark	16,080	
Clay	15,984	3
Clinton	19,887	1
Coles	34,888	5
Cook	4,052,413	161
Crawford	19,068	2
Cumberland	9,690	1
DeKalb	33,894	3
DeWitt	16,237	
Douglas	15,247	
DuPage	113,962	22
Edgar	22,286	3
Edwards	8,056	1
Effingham	18,537	1
Fayette	24,256	1
Ford	13,694	2
Franklin	45,198	2
Fulton	41,612	9
Gallatin	9,371	
Greene	18,099	
Grundy	18,771	2
Hamilton	12,677	
Hancock	23,873	
Hardin	7,925	
Henderson	7,832	
Henry	40,136	7
Iroquois	28,986	2
Jackson	33,836	3
Jasper	11,233	
Jefferson	33,038	2
Jersey	12,849	
JoDaviess	20,100	1
Johnson	8,496	
Kane	132,115	16
Kankakee	62,320	4
Kendall	10,180	
Knox	48,424	6
Lake	122,781	23
LaSalle	96,100	21
Lawrence	19,569	5
Lee	33,044	5
Livingston	36,112	1
Logan	27,073	2
McDonough	25,798	8
McHenry	38,060	4
McLean	66,906	12
Macon	85,176	14
Macoupin	41,319	4
Madison	165,787	26
Marion	40,841	5
Marshall	11,564	
Mason	14,025	1
Massac	12,975	
Menard	8,869	1
Mercer	16,233	1
Monroe	12,011	1
Montgomery	29,234	1
Morgan	32,081	6
Moultrie	11,640	1
Ogle	28,537	4
Peoria	145,974	38
Perry	20,848	
Piatt	12,725	
Pike	21,504	1
Pope	5,966	
Pulaski	13,299	1
Putnam	4,598	
Randolph	30,060	
Richland	14,931	2
Rock Island	118,098	19
St. Clair	175,807	27
Saline	31,663	4
Sangamon	116,196	21
Schuyler	9,487	
Scott	6,722	
Shelby	22,879	3
Stark	7,882	1
Stephenson	39,346	7
Tazewell	57,913	3
Union	19,237	2
Vermilion	77,600	5
Wabash	13,249	1
Warren	19,402	3
Washington	13,974	
Wayne	18,929	1
White	20,058	3
Whiteside	41,882	5
Will	119,788	21
Williamson	45,913	2
Winnebago	127,340	22
Woodford	17,660	

*1945 Estimated Population
Source: Illinois Department of Public Health, Division of Public Health Nursing.


THE ARMY MEDICAL LIBRARY, Washington, D.C.


THE ARMY MEDICAL LIBRARY, Washington, D.C.